The magazine that gives the CPC a fighting chance

AMSTRAD ACTION

ISSUE No.95
August 1993
£2.95



Street Fighter II

The story so far...

£35

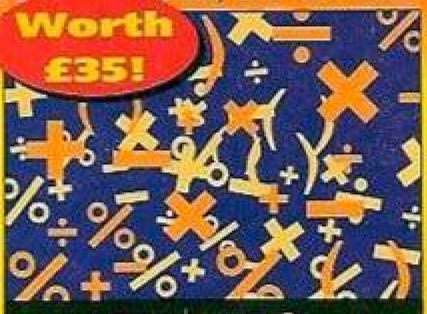
of really smashing software

Amstrad CPC 464, CPC 6128, CPC 464 Plus

AMSTRAD ACTION

AUGUST 1993

Worth £35!



MasterCalc

CLASSIC COLLECTION



Biff

● TOP TIPS ● FIRST REVIEWS ● ● BEST ADVICE ●



CPC



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08

Line u

Serious



Feature

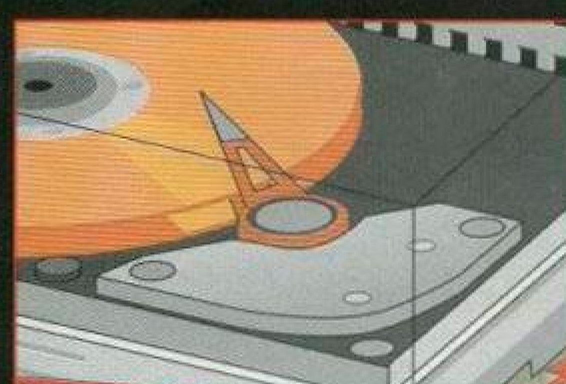
Frivolous



It's time to drive that crazy robot – page 44.



Creepy and kooky and all that stuff – p 46.



Masses and masses of mass storage – p 25.

CLASSIC COLLECTION

'Classic' Collection? 'Utterly fab and groovy, completely excellent and marvellous' Collection, more like. One of the most useful things – a spreadsheet. And a cracking game.

MasterCalc

1 Mere months ago (in AA93 to be exact), we ran a little piece about all the great things you can do with so-called serious software.

We talked about organizing your record collection with a database (and then we gave you a database program last month).

We talked about spreadsheets. You can use them for home accounts, making decisions (particularly buying decisions), making lists (the ed sorts out the original plan for the mag with a spreadsheet), keeping an eye on share prices, keeping track of sports tables and loads, quite frankly, more.

And now, cor blimey, in our continuing efforts to give you all that's utterly funky in terms of stuff for your CPC, here's a spreadsheet to get you going.



They're quite complex things so we're going to be giving a few hints and tips as the months drag on. ('Fly by', surely. – Ed)

There are hundreds of uses for these marvellous things and we're still after the best and most entertaining ones.

It's like this, you see: you write to us at the usual address with your novel idea for using a spreadsheet or database (or both, even) and we'll bung £25 in the pocket of the one we like the best.

Who said you can't get something for nothing?

Biff

2 If the rigors of the working day have left you tired and listless, you need a way to relax. You need something that'll take your mind off the cares and worries of your life and focus it on something jolly and fun.

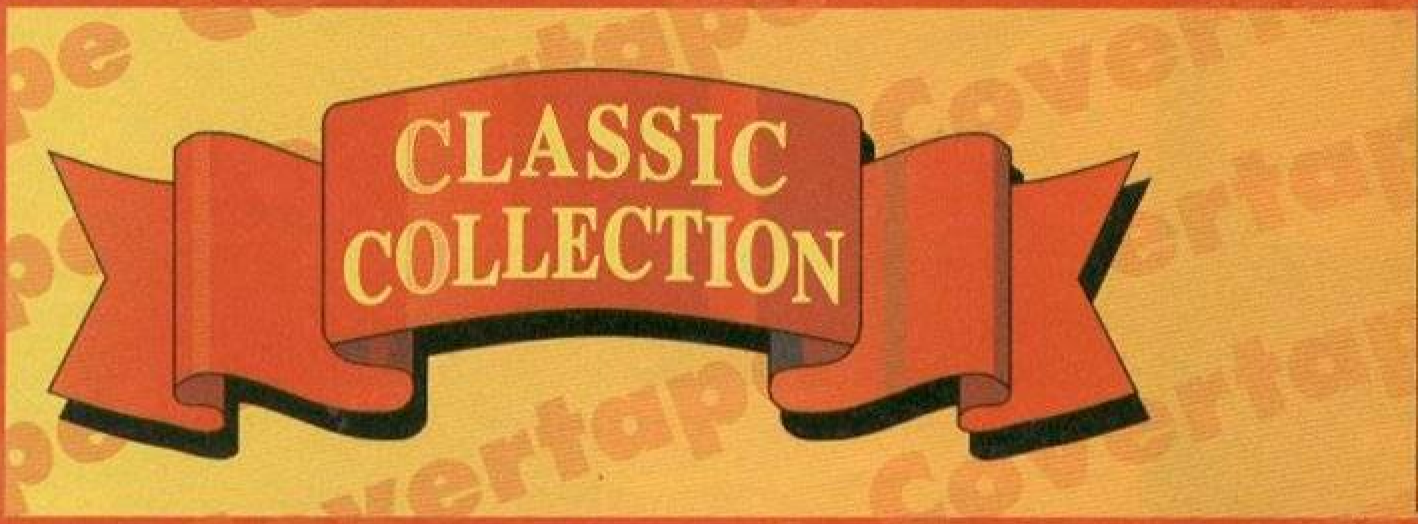
What you need is a nice puzzley arcade adventure starring a criminally insane biggish ape of some indeterminate variety. You need a game full of puzzles and conundra. You'll need a lie down after this one, I can tell you.



There is, as they say, going to be a hot time in the old town tonight. There'll be a rumble in the jungle. Nellie the Elephant will, by the time you've finished playing this one, have packed her trunk and trundled back to the jungle to see what all the fuss is about. She'll have brought the Head of the Herd with her and... er...

In the years to come I shall be telling my children about this one. I'll say, 'I remember when I was on AA and we had the most amazingly brilliant covertape game.' And they'll ask to borrow the car again and that'll be the last we see of them till Sunday lunchtime. Kids, eh? Don't appreciate a good game.

Just turn the page for all the details →→→



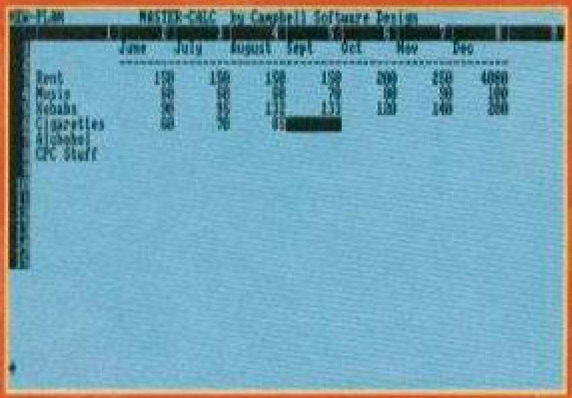


MasterCalc

We really are good to you. This time, it's a full spreadsheet package!

Hurry up, times a-wasting. If you want to know exactly what a spreadsheet does, you'll just have to dig out a copy of issue 93, or order it from back issues. If I were to explain the full ins and outs of what a spreadsheet is and how it could be useful to you, we'd run clean out of space. The 'Creative Counting' feature contains pretty much everything you'll want to know.

This explanation is going to work as follows: this month, these two pages will be given over to getting you started with the package, and knocking up a very basic spreadsheet. Next month, there'll be another couple of pages clearing up all the loose ends and going into a few of the more intricate parts, but for now, here's how to bosh together a simple but useful spreadsheet.



Just move the box around and enter all the values you need. It really is that easy.

● Okay, the first thing you need to do is load *MasterCalc*, and press N to select a new plan. You will be asked for dimensions, so state 15 rows and 14 columns. Presto! You can now see your blank sheet (well, most of it).

● You'll notice that the top left square on the spreadsheet gird is black. This is actually our cursor. Funnily enough, this cursor can be moved around using the cursor keys, letting you refer to absolutely any cell on the grid.

However, you should also have found that the cell can't move off the screen, and let you see the columns from 10 to 14. Well, the screen can be scrolled by holding down the SHIFT key and using the arrows.

● Now take a look at the bottom of the screen. You should see a little line telling you that you can press CTRL & K for a little keypress menu. So try it out. You can press ENTER to return to your spreadsheet.

● The first of these keypress commands we're going to use is CTRL S. This will give the free bytes, which'll be really high, considering we've just started.

● Let's enter some data. We'll start with the headings along the top of the sheet. So move the cursor to cell 1,2 (row 1, column 2), and press SHIFT & 2. This tells the package that you want to enter some text into that particular cell. So enter your text now, really.



A nice and comprehensive main menu to load and save files, as well as cataloguing.

For the sake of argument, we're going to use the months of the year, and this is how we're going to do it. Type the following line, with the dots, as per usual, representing spaces, and press ENTER.

```
···Jan·····Feb·····Mar·····Apr·····May·····Jun·
····Jul·····Aug
```

The reason we had to stop just here is that we've come to the end of the screen, so scroll the sheet right using SHIFT and the right arrow, and enter the next bit of text:

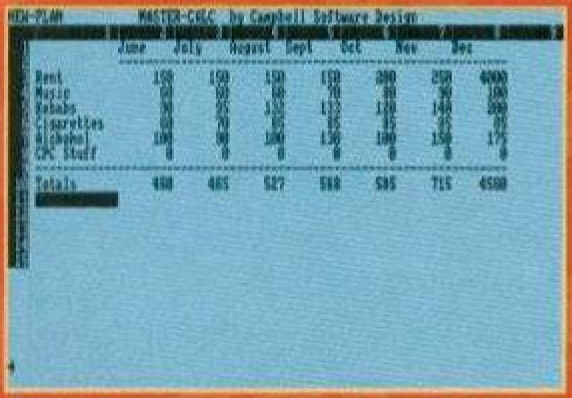
```
···Sep·····Oct·····Nov·····Dec·····Year
```

You can now put dashes along row 2 to underline these headings. All by yourself. No, go on, it's not difficult. That's right, all the way to the end.

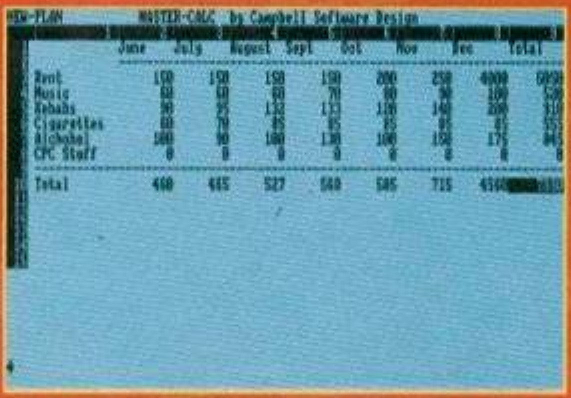
As you've probably worked out, when you choose to enter text into a cell, the text cursor automatically spills over onto the next cell, making typing really easy.

● Hit CTRL & D. This will cause a down arrow to appear in the bottom left corner of the screen, making the text spill automatically downwards. So now you can work your way down the left hand side of the screen, entering names for the other axis. The names will start at cell 3,2 and work downwards. Make sure that the last title in the list is TOTAL, as we're going to be calculating this later.

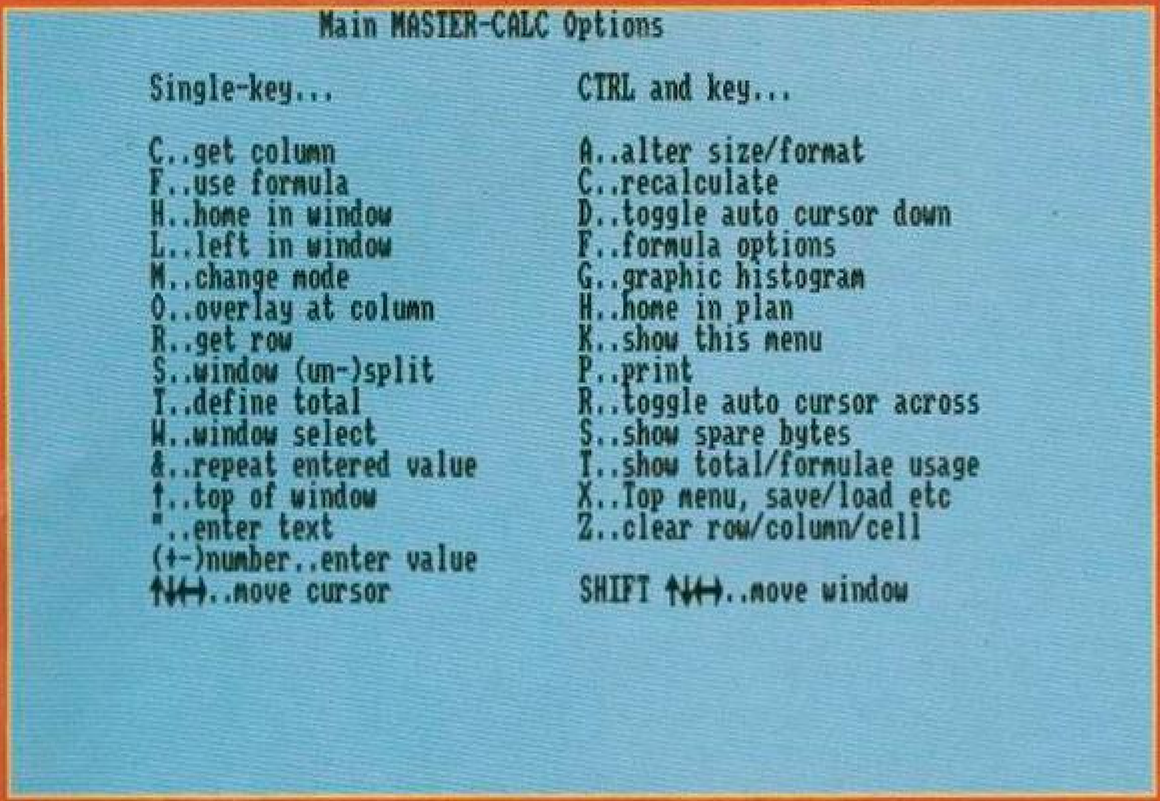
● Now move your cursor to cell 3,2, and type a value. Any value, that's right, just



Here we can see a really nice use of the facility for calculating column totals.



You can also produce row totals, and add the two sets of totals together! Wow, huh?



MasterCalc comes complete with a huge set of in-built keypresses to save time and

type the numbers. The program displays your number at the bottom of the screen. Press ENTER, and the value will be plotted onto the sheet.

● I refuse to take you through entering all the values, so you can do that yourself. The one set of value you don't have to enter, though, is the column totals, as I'm about to show you how to get *MasterCalc* to work them all out for you.

● Move your cursor to the cell in which you want the column total to appear. This must be in the same column as the figures you wish to calculate. Press T. You will now be asked:

TOTAL: Row/Column/Accum

You, of course, will press C to select column totals. You will then be asked:

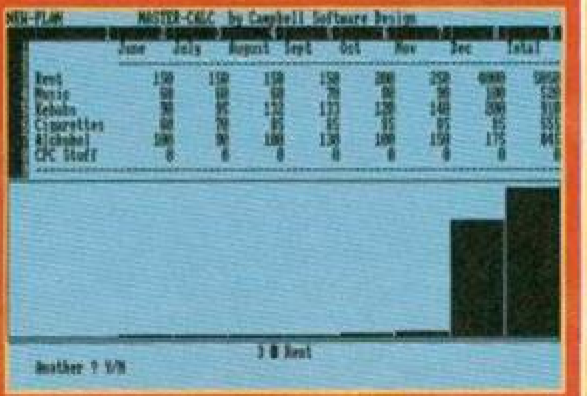
Sub-total/Full total

Although both would give you the same result in this instance, press S (it's the most logical). Immediately, you should see your column add up, and the result land in your highlighted square. Wow, eh?

● Move along the totals row, doing this to every column, just to make sure you get the hang of it. You could also move down the right hand side of the sheet, giving row totals, but it's exactly the same, so there's not really all that much point.

● This is where things get really fun. Hit CTRL & G. You will be asked for a row. Give the number of a row with loads of figures, and hit ENTER twice. This is the graphics feature.

● When asked whether you wish to see another chart, press Y. Now give the values of three rows. This just gets better and better, doesn't it? At all times, not giving a

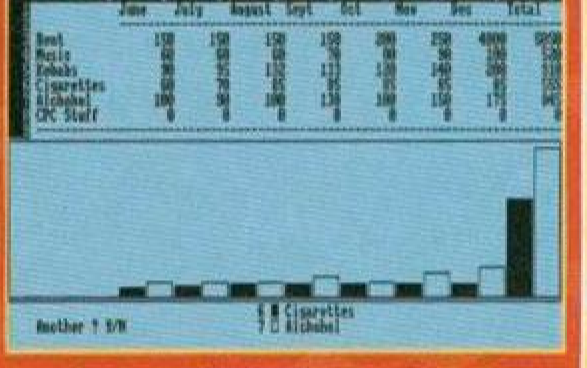


With just a few keys you can display descriptive bar charts of your figures.

value (just pressing ENTER) will tell the package that you've entered all the row numbers you want to.

● Hit CTRL & X. This should take you back to the main menu. From here, you can save your spreadsheet, load in other sheets, and basically do everything you're going to need to do in the way of filing and finishing.

That's about all for this month, but we'll be going into the various features in a lot more depth next time. 'Til then, you might like to take a look at the Mega Bytes feature in issue 92 for a few ideas on just what uses you'd put this advanced calculating utility to. Bye.



Bar charts needn't just be of one set of figures – comparative charts are easy too!

Read this bit first, it's important.

Just pop the tape into your machine, making sure it's rewound to the start of Side 1, and then press CTRL + ENTER (or type RUN""), then press any key and the tape will start loading.

Within a few moments you get a menu screen. Choose the program you want using the Spacebar, then hit the RETURN key.

● Note that none of the programs need be loaded directly from the main menu. They can all be run from BASIC. The menu lists them, but you must quit back to BASIC to run them. (Use the RUN"(filename)" command.)

● If you have a disk drive either built into your machine or plugged in, you will first have to type |tape to switch the computer to tape loading. You get the | character by pressing SHIFT+@. Then just proceed as normal.

The tape won't work? Surely not.

We go to great lengths to make sure that our covertapes work properly. However, if you still have difficulty, try this:

● Loading at several different volume levels (if you're using an external tape recorder) ● Cleaning the tape heads. This can be done with any commercially available cleaning kit ● Adjusting the cassette recorder's head alignment. The alignment screw is located just to the left of the tape head, and is usually accessible through a small hole. Turn it a fraction at a time with a jeweller's screwdriver. When the crispest sound is heard, the alignment is spot on. ● Tapping the cassette gently against a table edge – the spools may be sticking or jammed.

If you still can't get the tape to load then send the tape, along with a brief description of the problem and a stamped sae to:

AA94 Covertape Returns, Ablex Audio Video Ltd, Harcourt, Halesford 14, Telford, Shropshire TF7 4QD

But I want a disc version!

The covertape contains its own tape-disc copying program. To transfer the programs to tape, simply follow the instructions on the tape.

● 464 owners with external 3-inch drives will have no problems, but 6128 owners will need a cassette player with a REM socket. Stopping and starting the tape manually is difficult.

● 6128 Plus owners who've had their machines modified to load from tape can transfer the programs to disk, *but must rewind to the start of the tape again before the transfer starts.*

You can also order a disk version of the covertape from our duplicators, Ablex. Snip off the coupon on the corner of this page and send it with a cheque/PO for £2.00 to:

AA95 Disk Offer, Ablex Audio Video, Harcourt, Halesford 14, Telford, Shropshire TF7 4QD

Please don't return tapes to the AA office. Ever!

Disk 95 Token

Biff

Have you ever wondered why straplines like this actually exist? Apparently they're to tell you what's on the page. Let's ignore this rule for a minute, as I find it a little hard to believe you haven't sussed out what this is all about by yourself – the covertape game.

And this month, we're looking at animal research. Not all that boring skinned rabbit or beagle with lung cancer stuff, but the exciting stuff involving shooting chimps off into space.

You see, one of the western world's greatest achievements was actually putting a chimp in orbit around the earth. There are a few things about the space research project, however, that didn't come to light the first time around. You see, publicly, the whole point of sending a chimp whirling around the planet was to try and bring them back safely. Research wise, though, the real experiment was to see how far they could slingshot somebody, in an attempt to save vast amounts of rocket fuel. NASA had gone green.

No fuel like an old fuel

The principle was simple; if you could send a person hurtling point B, without them taking any fuel from point A, then get them back to point A without using any fuel from point B, and loop the process, you've achieved perpetual motion. The only real problem was timing the flights to collide with a planet, spin round it (due to gravitational pull), and fling itself back to earth.

Fission chimps

The point of all this, sadly, is that there is currently a chimp who's flight path took it clean out of the way of any danger. Unfortunately, it also took it out of the flight path of the target slingshot planet, which, by all accounts, was a bit of a bummer. So we have a chimp, floating alone in space. Scary plot development. Food was running low. Air was running even lower. Still the chimp lived. When the food had run out, the chimp fed itself solely on the insects it found in it's fur. When his fur was clean (I think he deserves a name), Fernandez (I'm not sure he deserved that name) ate select parts of the ship, carefully so as not to depressurize the cabin. He's down to his last 5 minutes of breathable air, and the ship's empty. Fernandez was flying through space in a large steel tennis ball, with no air, and no food. Alone. So very oh. He's hit a planet. Thank heavens (I couldn't have filled this page if he'd died).

What sort of new world?

A strange new world. The lush, deep greens blending with the subtle, glassy blues. The dew lying like a blanket over the fresh, clean new world. Grass and trees alone do not an alive chimp make, though, and it's your job to keep Biff going in other ways. One such way is to appease the mighty god of all things sacred, Donnakibab. Don (to his friends) is known for his habit of sending little messages into the cortex of others, demanding jobs to be done, and generally making a nuisance of himself.

Something about the game? Surely not.

There were loads of strange mutated beastie things to get in his way, but he found he could avoid a lot of them using left and right on his joystick, and jump over them by moving up. As well as this, Biff soon discovered that he could pick up objects by hitting down whilst standing next to them, and actually use different things to achieve various tasks by hitting fire.

That, to be honest, is about all. Have loads of fun.

And that, as they so often say, is all there is to it. Bruce Forsyth eat your heart out. ●

New Sensation

You may notice that this month the covertape has been slightly re-arranged. This is nothing to worry about really, but it does mean you'll be using both titles in a slightly different way.

Firstly, the two sides of the tape load completely independently to each other. On each side, you will be presented with the option to load the game, or transfer it to disc. If you choose to transfer it, simply follow on screen prompts. If your tape runs out, and the game has not transferred, just rewind it, and play it through again.

MasterCalc takes a very economic 15k on your disc, and *Biff* runs at a slightly more extravagant 35k. That's 50k in total this month.



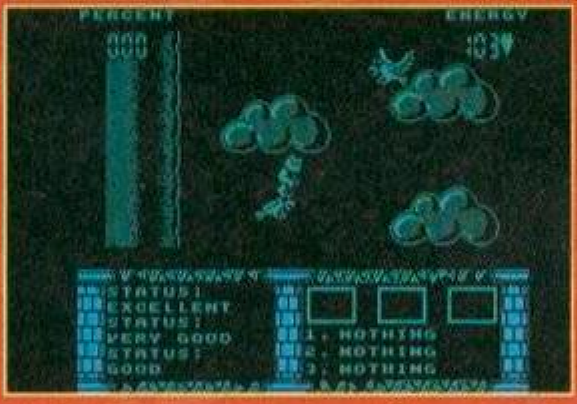
You know, I very nearly had the notion to write a caption relating to this game!



Biff walked alo... – it's no good, I just can't bring myself to do it. It's against my nature.



I had a tree house once. Well, it was actually just a little cardboard box...



And it wasn't even in a tree – there was this little rose bush, you see, but it was home.

Thanks

Here at the *AA* office, we've been overwhelmed by the response to the covertapes recently. If you've you've got an idea for what you'd like to see on the covertape, please send it along to 'Covertape Ideas' at the usual address.

Amscene

News, news and news. It's the AA news page.



It really is about time we got some new pictures done.

Bonjour

You could have knocked me down with a kipper (or something) when the replies started coming in for the 1993 Reader Survey. We've had quite a few already and we're expecting even more so we've decided to let it run on for a little while longer.

So dig around in that pile of magazines on the living room floor and find AA94. Somewhere in there there's a Reader Survey form and if you bung it in the post to us before 31 August 1993 you might win 50 quid. Hurrah.

Oh, and there's loads of really great stuff in this month's issue. I have to say that, it's in my contract.

Trendy Computing

Sony have just announced that they'll be offering a number of exciting goodies and assorted bits and pieces in exchange for tokens on their disk boxes. The stuff you can save tokens for ranges from a T-shirt (for 21 tokens) to a personal stereo (for 150 tokens) a pair of sunglasses (for a ludicrous 175 tokens), and a Game Boy (220 tokens). You get three tokens for every box of 3.5" HD disks (boxes contain ten disks) in the 'Take It Easy' campaign.

There are loads more goodies up for grabs, and full details can be found on the disk boxes.

STS Software

If anyone is still looking for any of STS's products, you might like to know that Campursoft have now taken on the entire range. This means you can now buy *S/DOS*, *SoftLok*, their music grabber, etc, perfectly easily. There are no promises about meeting previous orders, etc, but if you write to Campursoft they'll look into it for you. You can find Campursoft at:

10 MacIntosh Court,
Wellpark,
Glasgow, G31 2HW.

Note that this is a new address and that their phone number is changing as well – we'll let you know what it is next month.

They Be Pirates!

During this month's action, the office was hit by a nice wadge of FAST press release. It's got a lot of blah, but a few salient points:

- The country with the highest piracy rate is France.
- The country with the highest software prices is France.
- This doesn't point to high prices causing an increase in software piracy, no, honest.
- The country with the lowest piracy rate is the UK.
- The country with the lowest software prices is the UK.
- Look, I really can't see what you're getting at here – piracy is a group of juveniles illegally attacking the software industry with no motive whatsoever. And I bet they've all got long hair.

More Campursoft news

We've just heard from Peter Campbell's that Campursoft are tooled up to put some of their software onto cartridge. One plan even involves getting rid of *Burnin' Rubber* from your Plus' BASIC cart and putting something useful on it. More details when we get 'em.

MD+ For All

That kind bloke at Campursoft, Peter Campbell, has just let us know that OJ Software is now selling *MD+*. You can find OJ at: **273 Mossy Lea Road, Wrightington, Nr Wigan, Lancs, WN6 9RN.** Failing that, you could ring them on (0257) 421915.

End of an era

It is with much sadness and regret that we have to announce that, after ten years as the best, best-selling and then only Speccy mag, Your Sinclair (an ace magazine produced by some crap friends of ours) is to close with its September issue. The last issue will be a bumper special, packed with nostalgia. And crapness.

If you don't buy another computer mag this year, buy the last ever Your Sinclair. It's crap, in a funky skillo sort of a way. ●

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LANDMARK v2.00 PERFORMANCE COMPARISON CHART

386SX 16MHz	386SX 20MHz	386SX 25MHz	386SX 33MHz	386DX 33MHz	386DX 40MHz	486SX 16MHz	486SLC 20MHz	486SX 25MHz	486SLC 33MHz
20 MHz	25 MHz	31 MHz	47 MHz	51 MHz	66 MHz	54 MHz	67 MHz	84 MHz	92 MHz

Silica Systems are pleased to present an upgraded version of the Mega PC, called the Mega 'Plus'. This has been upgraded with the revolutionary 486SLC 33MHz CPU, manufactured by Texas Instruments and jointly developed with Cyrix. This chip is a 33MHz 486 instruction set compatible micro processor with a 32-bit internal data path, 1K internal cache and power management features. Power meter aggregate MIPS performance is increased by up to 2 times and it boasts an overall performance of 92MHz using Landmark's latest version Speedcom 2.00 benchmark. This is almost 3 times as fast as a 386SX - 25 CPU (see Landmark Speed Chart above). The 'Mega Plus' 486SLC 33MHz PC comes in two versions - 40MB hard drive with 2MB RAM at £799+VAT and 130MB hard drive with 4MB RAM at £899+VAT.

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Before you decide when to buy your new computer, we suggest you think very carefully about WHERE you buy it. Consider what it will be like a few months after you have made your purchase, when you may require additional peripherals and software, or help and advice with your new purchase. And, will the company you buy from contact you with details of new products? At Silica Systems, we ensure that you will have nothing to worry about. We have been established for almost 14 years and with our unrivalled experience and expertise, we can now claim to meet our customers' requirements with an understanding which is second to none. But don't just take our word for it. Complete and return the coupon now for our latest FREE literature and begin to experience the "Silica Systems Service".

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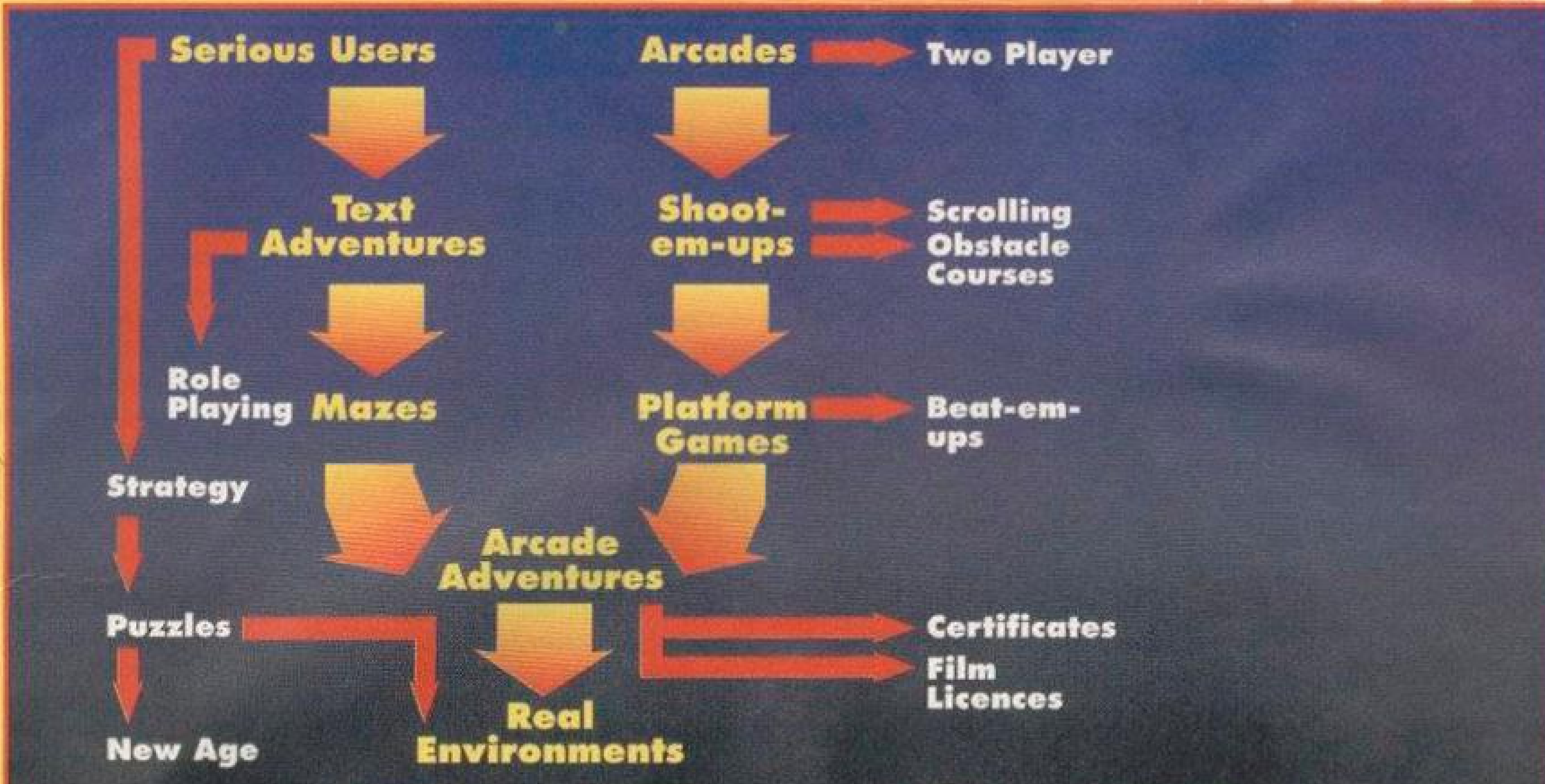
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Family Ties

A brief history of the computer game.

Come with us on a journey through the wonderful world of the video game. Simon Forrester is our guide.

You read about them every month in one or more,magazines. You rush out in your millions and buy them, pushing them up the Gallup charts. You've turned them into a multi-million pound industry from the cult entertainments they used to be. Almost every day, in one form or another, you come into contact with computer games. If you're not playing them, you're reading about them, or you're watching television programmes about them.

So what's really behind the hype? How did it all start? Was there life before Sonic? Of course there was. This whole snowball started rolling before your average console owner was even a sparkle in their dad's beer.

We're about to take an in-depth look at the industry that is the sole reason for the existence of magazines like ***AA***. We're about to enter the world of computer games. Keep reading to find out how they started, how they evolved, and how they're produced today. We'll also take a look at how they might be going in the future, so hold onto your hats folks...

Evolution

You may think you've got a collection of the hottest titles, with the coolest concepts, and the best action around. Well we hate to burst your bubble, but the stuff you rush out every month to buy is anything but original. You see, just as man evolved from fish, your latest title, maybe *Prehistorik II*, is just a game at the end of an evolution chain that started with mainframe computers, and *Breakout*.

The odds are, if you're of average ***AA*** reader age, the beginning of this story is set before you were born. We're going to start with the first video arcade game – the original computer tennis game, *Pong*. It consisted of two bats and one ball (no bonuses, power ups, extended plays, bad guys, flashy graphics, etc). Though you may laugh at this kind of thing these days, in 1972 this was real ground breaking stuff. But whatever you think of it, the video arcade game was born with this release. The craze swept America and Japan with great speed, stirring up a whole teenage generation of gamers, and a huge amount of industrial interest as to what was coming next.

And lo, in 1974, to the first computer game a child was born – *Breakout*. This was what's probably best described today as *Arkanoid* (without any bonuses, power ups, extended plays,flashy graphics, etc). Following the immensely successful *Pong*, it couldn't fail to take off, and managed to re-stir the initial enthusiasm that greeted *Pong* so warmly.

A while after, though, the scene was to pick up again with Japan's contribution to the industry – a nifty little action game called *Space Invaders*. It was here that the arcade games scene really took off – the eager observers of the revolution started to produce computer games of their own, starting what was to be the computer game revolution, setting the foundations for the multi-million pound industry we can see today.

One of the more notable of the early creations was *Scramble*, or *Defender* as you may know it today. *Scramble* was the first horizontally scrolling shoot-'em-up, the point being to stop an alien race stealing cows from the Earth's surface. The reason you'll know the game as *Defender* these days is because that was the version that made it onto computer, complete with smart bombs, reverse thrusts, etc.

Another offspring you'll have undoubtedly heard of was *Asteroids*. The original flat-bed consoles (a tabletop with buttons) contained simply a vector graphic space ship shooting vector graphic asteroids. Two player tables also entered the market, probably drawing inspiration from *Pong*, having both players on the screen at the same time.

What happened next is maybe a slightly fuzzy area. You see, there wasn't any logical progression toward the games that followed, more of an innovative leap. Just as *Pong* was a product of inspiration, the early *Donkey Kong* games were quite a leap as well. Bridging the gap slightly was *Pacman*, but to describe *Pacman* as a stepping stone between the two concepts would be wrong on two counts – the gaps are still too big, and *Pacman* was a full concept in its own right, with a following crowd and an influential position just like any other.

And so onward, then, to that next major point in computer games evolution, the platform game. Remember *Donkey Kong*? All of a sudden, the emphasis moves



Super Space Invaders



Duckula

completely away from killing people, and concentrates on rescuing damsels in distress, in this case being terrorized by a huge ape. What we've seen here is a definite move towards progressing through an environment, rather than destroying it. This new concept was, whether the designers realised this or not, set to revolutionise the world of computer games, from the relatively shallow concept of space invader type games to the conceptually deep possibilities of an exploration game.

Chuckie Egg, then. It's really only a slight variation on *Donkey Kong*, but you'll find a lot more in a game as simplistic as this that was totally lacking in early shoot-'em-ups. Think about it:

- Empathy – when it's a roughly human shape plummeting to its death, getting eaten by a chicken, etc, the player really can become a lot more closely related to the sprite they are controlling than they could with a triangular space ship.
- Exploration – it's also with the advent of the platform adventure that the age old argument over points or progress was tipped in favour of progress. You see, whereas with a shoot-'em-up, you merely progress onto a new wave of bad guys, platform games see you progress onto new screen layouts, new problems, new enemies, and so much more.
- Versatility – shoot-'em-ups have always been fairly rigid in format. Even today, the most innovative that programmers will be is to add extra weapons, and different aliens. Platform games, however, do not fall pray to this design flaw. With a platform game, you can represent almost any scenario, any environment, and any plot (unless it's based around shooting aliens). In the past, we've seen platform games set in futuristic worlds, mediaeval towns, present day scenarios, stone age periods, and, well, you name it really, whereas shoot-'em-ups always place you in futuristic space ships, flying against some deadly invasion force. Yawn with a capital 'Y'.

This is where we must depart from the world of arcade games though, and look at the other side of the coin, being the other half of the industry that merges with the arcades at this point.

Get serious

Before anyone else, serious users (those who came into contact with computers at work, etc) were using computers to entertain themselves in one form or another (usually in the form of little games that ran on networks between the larger applications). Because the majority of these machines could only handle text, the games had to be in text. It's from this side of the history that we get text adventures and strategy games.

These text adventures started off very simply, as diversions to pass the time. However, to a lot of people they still held advantages over arcade games (due to their much more involving format, and enjoyable style – in a way, like reading a book). Over recent times, by the way, these games have been developed almost to the stage at which they are unrecognizable as being derived from the simple text adventure. As parsers become more and more advanced, and objects get more and more interactive, the user is drawn further into the false environment – but more on that later.

The next stage was really quite a simple development from the old text adventure style. You see, a text adventure is really just built up over a section of squares, which, in the end, turn into a maze. So why not drop the descriptive plots, and just wander around a 3D maze? Hence, the maze game was born. Since its arrival, it has seen many variations, such as *Bloodwych*, and a few isometric games.

Let's get together

It's at this point, then, that the two genres, being arcade games and quiet strategy games, came to join. The result was, well, surprising. What they had effectively come up with was the arcade adventure, in all its glory! These range from huge-levelled platform games, such as *Rick Dangerous II*, etc, to titles such as *Heavy On The Magic*, *Bloodwych*, etc.

And we should also look to the future. In the quest to find a character or game genre with which the player can truly empathise, we have taken the computer game one step further – Virtual Reality.

Virtual Reality is a system that has come about only recently, due to the advance in technology, and processing speed. If you haven't already seen it (which, I imagine, would be quite hard), Virtual Reality is, in effect, *Freescape* through a helmet. When you turn your head, the view through your helmet turns correspondingly. When you move your hand, a sensor in a glove moves your computerized hand.

The Industry

Of course, all these games don't come about by chance, you know... The average computer game takes a hell of a lot of work. So what exactly does go on behind the iron

Game Styles

Beat-'em-ups

As we have already seen, early platform titles were the first games to incorporate human beings into an arcade environment. However, people do other things asides from jumping around on ladders. Their other main occupation, it would seem, is fighting. As a concept, it's perfect – it's got action, a large amount of variables, and is a perfect target for empathy. The beat-'em-up was (and is) a ground breaking concept, which has proved to be a constant source of best sellers.

Licences

If take a look along the shelves of your local video shop, and compare film titles with the software collection at your friendly neighbourhood computer store, you will notice something – there are lot of games about films. Whether it's Hudson Hawk running around, or Clive Barker's Nightbreed characters on your screen, it's a film licence.

But let's face it – there's one main reason why film tie-ins are written. If a film is a box office hit, you can be pretty sure to catch a lot of attention with a computer game based on the film. This isn't just limited to films, however. Board games (Monopoly, Trivial Pursuit), books (The Fourth Protocol), and quiz shows (Bob's Full House, Blockbusters) are also well explored concepts in the history of licences.

Whether these games actually work, either as games in their own right, or as tie-ins to the film (or whatever), is not clear. Having a popular licence doesn't mean you'll have a good game on your hands – the game is just as likely to be naff as any other – it just generates more media attention when piggy backing on a film.

There has actually been one example of the whole process working in reverse – Erik The Viking. If you saw the film and enjoyed it, why not go out and find the text adventure game it was based on?

curtain at a software house?

So you walk into WHSmith, and pick a cassette off the shelf. Maybe you've read about it in AA, and heard it's the next best thing since sliced bread. Whether it is or not, the same high amount of work and effort goes into producing the computer game that in the end, you buy. So what exactly happens?

Concept

There are two main sources for a game concept. It's either a conversion from a different format, or a fresh idea. If the starting concept is a conversion from a different format, the actual freedom of the development team is restricted to an incredible amount. Sure, on 8-bit versions of games that have already graced the 16-bit market there are always going to be features that will have to be discarded (due to processing speeds, memory restrictions, machine's ability, etc), but there is very little scope for anything to ever be added.

Programming

The one person who does this part is the actual programmer. This is a person who, when provided with graphics, sound, and game plan, turns it into a fully working masterpiece of machine code (the standard language for writing games on the CPC).

Graphics

There can actually be several graphic artists working on any one particular game at any one time, as the types of artwork required vary greatly. Take your average budget game, for instance. First, you have the packaging. Though you don't buy computer software on the strength of the packaging, a badly drawn piece of artwork on the inlay is guaranteed to turn you right off. Next up, there are the various backdrops to the games. These are usually in the form of still frames, purely to add a nice graphic effect to the overall game. Finally, there are sprites. Sprites are the little objects that move around on screen in any game, such as your character, bad guys, bullets, explosions, and the such.

Sonics

But what is a game without sound? There are usually two types of sonic work required in a game, being the title tune, and spot sound effects. The title tune may involve either covering an older theme tune (if the game is a licence or cross format conversion), or writing a completely original tune from scratch (if the game is of an original concept).

Debugging & Playtesting

This is probably the most critical stage in the development of the computer game. The playtesting stage is where the game is thoroughly played, and every bug is ironed out to make the game look, feel, and play polished. Let's be honest here, no-one wants to play a game, only to find a bug halfway through. Even if the bug doesn't stop you playing the whole game, it definitely gives you a very bad impression of the whole thing. Now, we kid you not – playtesting is actually a full time job, in which, when you think about it, you get payed just to play computer games.

Software House

Quite obviously, the software house plays an absolutely vital part in the production and sale of a piece of software. The software house will oversee the project, provide the programmers with anything they may need (if the game is commissioned), and manage the sale of the game once it's finished.

The first part of this sale process is to organize reviews in as many magazines as possible. In the case of the CPC, there is only one national newsstand mag (us), so some of the larger fanzines will also receive copies.

Next, the softie must duplicate the game and sell it to a distributor.

Distributor

A distribution house is merely a company that takes games, in their finished forms, and gets them onto the shelves of your local computer software shop, onto the stock lists of mail order firms, and generally distributes the game to as wide a population as is possible.

Some software houses choose to undertake this part of the sales process themselves, giving them much more control. Unfortunately, most distributors would avoid the CPC due to low sales prospects, and so many software houses have to self-distribute.

Reviews

It's only after the game has been polished till it shines, and inspected with a fine toothcomb that is actually passed on to a magazine like **AA** for review. I then play the game solidly for around two to three days, and put the review together. This is not actually as easy as it looks – you have to say absolutely everything you want to say in a short piece of text, and still make it entertaining. Anyway, I either love a game, or I blow it clean away. If I love it, the software house breathes a little (only very little, mind) sigh of relief, and gets on with duplicating the game, to meet whatever demand they



Lemmings



WWF

New Age

When you think of puzzle games, you normally think of strange little picture arranging games, that have all the attention span holding ability of a cauliflower. You will find, though, that the launch of the astonishingly simple *Tetris* really shook the industry up a bit. All of a sudden, people realized that it didn't have to be complicated to be fun, and it didn't have to be famous to sell.

So along came the troops of new age puzzle games we've seen around today, such as *Puzznic, Lemmings, Pipemania*, etc. This avenue, now explored almost fully by the industry (with the possible exception of *Lemmings*) is now being gradually beaten to death by the public domain scene, which seems perfectly satisfied to churn out a *Tetris* clone per day, to people who seem willing to spend their lives playing the things.

Obstacle Courses

The invention of the scrolling shoot-'em-up means a lot here. By exchanging the ship for a car and the invaders with other cars, for example, and scrolling the screen, the obstacle course concept was born.

Now, the odds are you can't remember playing any obstacle course games. Think about it though... *Burning Rubber? Crazy Cars? Road Blasters? Fire & Forget?* They're just obstacle courses, with a different scrolling perspective – leading away. The obstacles here would be other cars, rocks, trees, bends, etc.

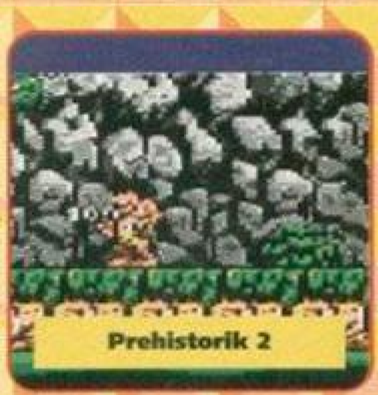
And it's not just racing games – *Marble Madness, Run The Gauntlet, Commando* and many other standard concepts are simply just obstacle courses, tarted up to look like original game ideas.

Role Playing

By now you'll realise the advantages of creating a computer game from an already established theme. The one avenue that has only recently been adequately explored is that of Role Playing



3D Construction Kit


Prehistorik 2

calculate they'll find.

Joe Public

With a bit of luck, if the game was finished, the review went well, and it reached the various outlets, you, the end user, have a nice new game to play. The odds are you didn't realize the sheer amount of work that's gone into the cassette you've just bought, but at the end of the day, if the game's worth the money, and sells well, it's time well spent.

Re-Releases

Of course, this process doesn't get played out fully when a game is re-released. The main difference is that whereas with a full price first timer there is a team developing a concept and writing the game, a re-release doesn't need any more work from the programming team.

Of course, artwork is re-worked, and a different inlay card is designed, but the game itself remains intact. Occasionally, a software house will buy the licence from a different company (in essence buying the game), meaning they are selling as game that was originally released by a different label, but most companies release their old products under a different label. For instance, Ocean use the label Hit Squad, US Gold use the label Kixx, and Titus use the label Fox Hits.

From the point of the software house onwards though, the process is exactly the same.

Cartridges

It's probably worth mentioning that this process is not just used in home computer games. When a cartridge machine is released, such as the Sega Master System, Super NES, GX4000, etc, a hundred or so programmer development systems are released with it. These are boxes that plug into a PC, etc, and allow a programmer to write a Sega game on a PC, and 'download' it to a console to test it. The only difference, then, is the medium the game is sold on – being a cartridge instead of a cassette or disc.

Construction Kits

Of course, not all games are written from scratch. A game is usually written in one of three ways:

- From scratch

Meaning the programmer does, in fact, start from scratch.

- From a previous release

Take the *Freescape* series, for example. Though there was a lot of original stuff in the sequels to the original *Driller*, the main game 'engine' stayed very much the same. After all, what would be the point in re-writing parts of a program that were already written?

- With a construction kit

There are some programming team that have developed rough construction kits for the creation of software. Level 9, for instance, had their own adventure writing system, that allowed the emphasis to be placed on creative ideas within the plot and characters rather than on writing the program from scratch with each new release.

The Future

We've seen how the very first computer games began, and how they developed and evolved into the games we play today. This, though a little complex, is traceable.

But what about the future? What do the next few years hold in gaming technology? How will concept change? After all, the technology that runs games like *Super Cauldron* is the same that ran such overtures in naff as *Roland In The Caves*. So how will technique change?

Well, we can only predict what will happen in computer games by looking at what will happen in technology, and what has already happened in concept.

Multi-Users

The first multi user video game was *Pong*. I think we can safely say here that the idea of more than one person interacting with the computer at once is not a new idea. When *Gauntlet* wowed reviewers with it's fun two player action, it wasn't really breaking any new ground. But there were a few games that did.

One such development, only really made possible by the growth of popularity of modems and telecommunication with computers, was *MUD*. This was a Multi-User Dungeon, designed for people to ring up (using a modem), and take part in a text adventure game. What separated this adventure from the rest was the fact that the characters you meet in the game weren't computer controlled characters, they were other people who were playing the adventure at the time. This has an astounding effect on the game. There's a constant input of originality and fresh ideas from the players as they interact which throws the whole problem of stunted characters with no real personality straight out of the window.

This whole concept has since been repeated many times in the progress of computer games, with games allowing machines to be linked (take *Power Tetris* for example), but these further attempts never really matched the initial success and long lasting appeal of set-ups such as *MUD*.

Games. RPGs are a phenomenon that started during the '70s.

An RPG is simple in theory. A small group of people (ideally about five), elect a Dungeon Master. The Dungeon Master then creates a world for the player's characters to explore, conquer, or carry out specific tasks in, under the rule of the DM. Amongst other things, this world will contain other characters (controlled by the DM), that can be fully interactive because they're controlled by a real person.

Character fighting, spell casting, energy, strength, etc, are calculated using tables, charts, and equations. This has always been the main downfall of the RPG system – the mathematics. It just so happens, though, that maths is the one thing computers have always been excellent at, so it would make sense to put an RPG game onto computer. Why haven't they?

Well, several games have come reasonably close to the format, such as the *Heroes Of The Lance* series, and more recently *Bloodwych*, but all computer RPG systems face one major problem – a loss of the fully interactive side of things. So unless artificial intelligence is mastered, we may never see a fully interactive computer RPG.

Scrolling

Take *Space Invaders*. You're there, shooting aliens. Fab. Not exactly going anywhere, though, are we? So what happens if you start the whole thing scrolling, so, in effect, you're going somewhere?

It was this action that gave way to some of the greatest classic games of our time. *Defender* is just a horizontally scrolling *Space Invaders*, with a few tweaks here and there.

Strategy

Oh ick. It's the one side of computer gaming that has traditionally turned avid game fans stone cold. Why? Well, no-one's quite sure. You may think 'Well, it's because games like that are stuffy', but if that's the case, why do people

With the steady increase in reliability and speed of national and international communications, you can expect to see a few further developments in the MUD field incorporating graphics, and hopefully a little bit of action.

The possibilities really are endless – imagine playing *Elite*, and flying against a real person who's sitting hundreds of miles away. Imagine flying along, and every ship you pass is a real person. Need we say more?

Technology

So how will technology develop? Well, this is probably quite easy to predict. You see, there are two main considerations when looking at computer technology from a programmer's point of view – speed, and capacity.

All computers are timed by some kind of internal clock. Though it's not a clock in the conventional sense (it doesn't actually know the time), inside your CPC is a quartz crystal, oscillating fast enough to produce a frequency in the MHz range. As far as the CPC is concerned, this frequency is converted into electronic pulses every 300th of a second.

This clock could, quite obviously, be upgraded. If you were to replace your CPC's crystal with a unit that produced a higher frequency, the rest of the internal components would freak out (not being designed or built for an increased speed), but faster crystals can be used when designing new computers. The basic rule here is that the faster the crystal, the faster the machine – a machine running on an 8MHz crystal will run twice as fast as a similar machine using a 4MHz crystal. This increase in speed can already be seen in some console machines and many of the more powerful home computers, so just think what you could with, say, a Mega Drive that ran at twice the speed – twice the number of animation frames, faster moving games that don't suffer flicker or rough animation, the possibilities are endless.

Capacity takes care of every other feature of a computer game that's not accounted for by speed. With new advances being made all the time in the amount of memory that can be stored on a chip, methods of storing data, and systems for effective information compression, games literally keep growing in size – with more backdrops, larger playing areas, more bad guys, more levels, etc.

You see, everything else, in the end, comes down to either speed or capacity. Music, for example, relies on both, requiring vast amounts of memory to store an average tune, and a large amount of processor time to get it out through a speaker. The same can be said for animation, which also requires memory to store extra frames in a sprite's movement, and more processor time to display these extra frames.

Real Environments

In many ways, real environments have already been realized by the computer market. In many arcades today, you can play Virtual Reality games. These may be racing games, or more *Drillerish*-style games, but they are beginning to imitate real environments.

A real environment, you see, is not a simple as it seems. To create a real environment on computer, you don't actually have to create a real environment – you merely have to present images, sounds, etc, to the user in the way that they would be presented in a real environment. Hence the VR helmet – a headset containing view screens in front of the eyes, and speakers for sound.

In effect then, the only thing holding VR back from imitating a real environment perfectly is the graphical ability and processing speed of the computer running the environment. As graphical capabilities and storage systems improve further, though, the detail and complexity of possible virtual worlds rise with them.

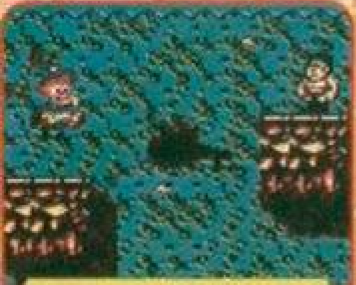
Artificial Intelligence

One of the main selling points of the *MUD* system was that characters in normal computer games are always incredibly false, incredibly stupid, and incredibly starched.

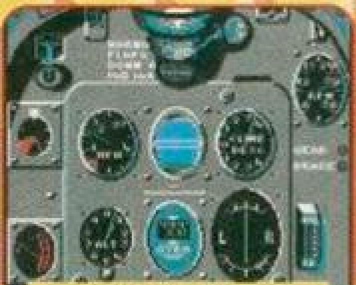
This isn't a product of bad programming, but a product of the limitations of ant electronic circuit to emulate a real personality. Once we create a computer that can achieve this, we've created artificial intelligence.

Contrary to popular belief, artificial intelligence is not about making computers think . The only criterion for AI is to make a computer respond to stimuli in a way that it would if it were thinking. This does seem to break the problem down into a slightly more stomachable chunk. After all, the most you can say about anyone is that they act as if they would were they intelligent.

As research continues into this rather tricky field, and advances are made in techniques of programming AI, the computer game industry sees advances, if watered down a little, in the form of more interactive characters. And when an alien tries to out-think you in combat, you know thing are getting just a little too deep.



Super Cauldron



Flight Sims

enjoy working out methods of completing levels, killing people, etc, in fast action games? Surely that's strategy as well?

The point is that for any game to be in the least bit challenging, it must make some demands on the player's strategic skills. If there's no challenge, there's no game. The problem only arises when a game is served as a pure chunk of strategy, with no action as entertainment. These games rely wholly on the user enjoying the mental challenge as opposed to the adrenaline. Be it Chess, Bridge, or the Battle of the Somme, unless there's an element of action, most games players will run screaming in the other direction.

So who's left? Those who enjoy the challenge, and prefer to play mental games rather their counterparts that test reflexes and co-ordination. There is nothing wrong in this. Strategy games are fun in the sense that people do enjoy playing them enough to write them. It's really just a case of whatever lights your candle!

Two Players

The whole concept of more than one person playing a computer game at once has really broken a lot of fresh ground of late. Starting mainly, as far as arcades are concerned, with two player *Asteroids*, and with Multi User Dungeons for the adventuring side of things.

By now, the idea has been used in puzzle games (take a look at *Power Tetris*), beat-'em-ups (*Double Dragon*), platform games (*Bubble Bobble*), and just about any other genre you can think of. The whole idea of competing with your friends in an alternate reality has an obvious appeal.

Of course, friends don't always have to compete. Take *Bloodwych*, in which you can journey round together, or separately, depending wholly on how you feel at the time. It would take a certain amount of co-operation to actually complete the game, but completing it doesn't always have to be your main aim, does it?

Venture Forth

Part three of Tim and Simon's writing adventures from scratch series. This month – objects and puzzles.

We're getting near the end of the creative bit now. All we have left to do is dot some objects around the place and work out some puzzles. In terms of programming, the treatment of objects and puzzles has to be kept separate so Simon's going to be dealing with them in two lumps. But, for the purposes of design, objects and puzzles are inextricably linked – the solving of puzzles usually involves the correct use of objects.

One of my pet hates in the puzzle department is the frequent lack of logic. A puzzle should be puzzling, of course, and if the solution is too obvious then your player will soon get bored. On the other hand, though, if your player gets stuck, looks at the clue sheet and says 'Yeah, right. Like I was really going to think of doing that,' then you've lost them.

For instance, never, ever, ever have a magic lock that only opens if you're wearing a hat. Hats don't open doors. Keys open doors. Magic spells open doors, if you insist, but hats never open doors. Not even my own special magic Cleveland Indians hat opens doors. Ever. If your player arrives at the door without a hat and finds the door won't open, they'll go off in search of a key. All their energy will be focused on the acquisition of a key and they might well ignore a hat if they find it. When they find out the lock was activated by millinery, they'll hate you. They'll stick pins in models of you. They'll send letters of complaint to AA about you. You'll find yourself being snubbed at social gatherings. Eventually you'll have to change your name and retire to the Hebrides. When you get there, people will say 'Aren't you the hat-lock fellow?' and you'll die poor and unloved. Don't do it.

Puzzles need to be logical and soluble, but not necessarily straightforward. Let's get back to the locked door. You need a key, but just walking round the corner and picking up a key wouldn't be much of a challenge. Try to think of some clever way of getting the key. It's not a bad thing to leave your player completely stumped if they say 'Yes, of course, how clever' when they find out what's going on. Anything to do with hat-operated doors, though, and you might as well kill yourself straight away.

So what about our little adventure? We need washing. It wouldn't be much of a challenge if there were only one heap, so we're going to have two. And because there's so much, it wouldn't be that much fun if we could just carry it about. We need a bag. There shan't be any in the house so we'll have to leave and buy one from a shop. It's beginning to get a little bit puzzling, isn't it?

The front door of the house will lock behind us, so we need a key for that (and we'll irritate the player just a little by not telling them. And finding a washing bag might be a little too tricky so we'll put a note on the kitchen wall reminding us to buy one from the bag shop. We ought to put some money in the kitchen, too, or we'll not be able to buy anything. And in the living room.

What we need for the programmer, then, is a complete list of all the objects with a brief description and their starting location. That should pretty much do it for a start.

Don't forget, either, that objects can be included in the game merely for the purposes of entertainment. A picture on the wall, for instance, might not be needed to solve a puzzle but it would be nice if the player could 'examine' it to find out a bit more about it.

Once we've defined the objects, we need to tell the programmer what they can and can't do, what needs to be done with them in order to solve the problems.

We should for the sake of realism, have some sort of weight system, or maybe a maximum number of items that can be carried.

As you can see, the list is pretty simple and doesn't include very much superfluous stuff. The puzzles aren't especially complex either. But it's just an example. What do you want for £2.95?

Any road, although we started thinking about plots and such when we started, it's not really until we get to this point that we can start pulling things together. So next month I'll be trying to round everything up and give some overall picture of our little game, together with any other general thoughts that occur to me. But now it's over to that Simon chap...

The techie bit

Cheers, Tim. Objects. Right. Each of Tim's objects has a name, a description, a starting location, and a few notes saying whether it can be picked up, how much it weighs, and what it actually does. We're going to store most of this in variables, in much the same way that we stored room data. First up, object names.

Each object we store has two names. The first is the name it gets in descriptive text, and the second is how we want the user to refer to it. For instance, if you took, say, a hat (evil laugh), it would have the descriptive name of a purple hat, and the user name of hat. This is so the user won't have to type a purple hat every time they want to refer to it.

The location, description, weight, and mobility of the objects can all be stored in variables as well. We only need to set up one variable, however. We'll call it obj$. It's set up by the command:

```
DIM obj$(16,5)
```

The 16 means we can have a maximum 16 objects throughout the game (this can be easily increased, but is set this low to save memory). The 5 represents the five things we want to store – descriptive name, user name, description, weight (a weight of 0 means the object can't be moved). Our hat, then, has the following it it's variables:

1	Desc name	:a purple hat
2	User name	:hat
3	Location	:16
4	Weight	:3
5	Description	:It's a rather

garish little hat with a key motif.

OK, so now we need to take a look at the way the variables for the rest of the game are set up:

```
300·'·Set·up·variables
310·DIM·w$(40)
320·loc=16
330·DIM·acc(16,4)
340·FOR·a=1·TO·16
350·READ·a$
360·a$=BIN$(VAL("&"+a$),8)
370·FOR·b=1·TO·7·STEP·2
380·acc(a,((b+1)/2))=VAL("&x"+MID$(a$,b,
2))
390·NEXT·b
400·NEXT·a
410·RETURN
420·DATA·28,22,22,02,a8,02,08,08
430·DATA·a8,12,aa,8a,a0,02,80,80
```

All we need to do now is insert our little object variable reader routine at line 401 onwards:

```
401·DIM·obj$(16,5)
```

```
402·FOR·o=1·TO·13
403·FOR·s=1·TO·5
404·READ·obj$(o,s)
405·NEXT·s
406·NEXT·o
```

And the data at line 431 onwards:

```
431·DATA·a·washing·machine,machine,1,0
432·DATA·"···It·looks·like·a·rather·ordi
nary······washing·machine.·I·bet·you·cou
ld·put····some·washing·in·there.·It·also
·has·a····slot·for·coins·and·a·drawer·fo
r·washing·powder."
433·DATA·a·chair,chair,1,0
434·DATA·"···It's·a·dodgy·looking·plasti
c·chair,··but·you·could·probably·sit·on·
it."
```

We've only given you the first few lines of data, as it's just a repeat of Tim's table, but in program form. Space prevents us from printing the whole of Tim's list, so you'll have to wait for us to put the whole thing on a later covertape.

There are a few things to note here. First, objects that only become available to the user after examining something else have an object location of 17. This is not a real location, but a nice place to store everything that shouldn't be on the map just yet.

Secondly, we can freely alter any object information once the game is in progress, as it's been read into variables at the start, and will be accessed via the variables throughout the game.

Third, the location we'll be assigning to the user's pocket will be 255 (no real relvence, just a number). The need to give objects locations that don't show up on the map is obvious – you don't want to be carrying something that stays in the place you should have picked it up from.

Fourth, this system is for objects. Do not define anything even vaguely alive using this system, because the user will be able to type EXAMINE GIRL (dodgy), PICK UP GIRL (risky), or even TAKE GIRL (will WHSmiths stock this?). We'll do characters some other time.

Right. We've got loads of objects scattered around our map, and we need to interact with them. The three main commands we'll be adding to our game, then, will be TAKE, EXAMINE, and DROP. We'll also throw in an INV (inventory) because we love you.

Okay, once we've added all the object data, and renumbered the program, the line that marks the start of the description display routine (called whenever a room description is needed) is 760. The listing looks like this:

```
760·'·Display·room·description
770·RESTORE·830
780·FOR·a=1·TO·loc
790·READ·d$
800·NEXT·a
810·PRINT·d$
820·RETURN
```

To display which objects are in the room, we add the following routine at line 811:

```
811·flg=0:PRINT·"You·can·see·";
812·FOR·o=1·TO·16
813·IF·VAL(obj$(o,3))=loc·THEN·PRINT·obj
$(o,1);",·";:flg=1
814·NEXT·o
815·IF·flg=0·THEN·PRINT·"nothing·of·inte
rest.":GOTO·820
816·PRINT·"but·not·much·else."
```

As you can see, it was really quite simple. The flag (flg) that is set when an object is found to be in the room is simply so that if there are no objects in a particular location, the sentence can still be rounded off neatly.

So now you can wander round the map and look at all the objects in the particular rooms. You'll notice, after about three moves, that the text does seem to recurr (you'll continually see the phrase "but not much else"), and this could be fixed at a later date to pick any one of several possible strings and print them.

The other problem you may come across is the fact that words may be split over a line, or whole chunks of text will just skip onto the next line down. This doesn't exactly look all that beautiful, but bear with it – this is just the bear bones of a game, remember. At the end, we'll probably run an episode on tidying everything up, so cross your legs and wait for a few months.

Right now, though, we need to insert a line at the parser to patch in our take routine. The site looks like this:

```
260·IF·w$(1)="WEST"OR·w$(1)="W"THEN·GOSU
B·1140:GOTO·110
270·IF·w$(1)="LOOK"OR·w$(1)="L"THEN·GOTO
·100
280·PRINT·"···Come·again?"
```

And we need to patch in another line:

```
275·IF·w$(1)="TAKE"OR·w$(1)="GET"THEN·GO
SUB·5000:GOTO·110
```

So all we have to do now is create the routine to pick up the object. Well, we would, but something tells me we must be near the bottom of the page by now, so I'd best leave that 'till next month. It might be a good idea in the meantime for you to try knocking up a version of TAKE – all you have to do is check whether the object is in the room, and move it to room number 255 (your pocket). We'll deal with weights next month as well, as I think I'll be getting both pages. Till then. ●

I object

Here's a list of some of the objects from the game, set out like this (for the programmer:
Object
Description
Starting location
Weight
Notes for the programmer

a washing machine
It looks like a rather ordinary washing machine. I bet you could put some washing in there. It also has a slot for coins and an drawer for washing powder.
Launderette (1)
It can't be moved. It needs to have washing powder, money and some washing in it before it'll work.

a very nice packet of washing powder
It looks like just the sort of thing you need to do the washing with.
Washing powder shop (6)
Weight 4, unless it's in the laundry bag, in which case 0
It needs to be bought from the shop keeper person. If the player hasn't got the money from the kitchen AND the living room, a warning 'You probably won't have enough money to do the washing' should be given when they attempt to buy it.

some coins on the table
My, my, some money. It's in your house so it must be yours.
Kitchen (7)
Weight 1
They can be moved.

a note
It's in your handwriting. It says, 'Don't forget to buy a laundry bag.'
Kitchen (7)
Weight 1
It can be moved, but why bother?

another pile of dirty clothes
It looks like another heap of your filthy clothes.
Bathroom (8)
Weight 5
It can be picked up, only if the player has a laundry bag or isn't carrying the other pile of clothes. The warning 'You need a bag of some sort' should be given.

laundry bag
It's a bag for putting laundry in. It looks like it might be just the right size.
Laundry bag shop (14)
Weight 2. When full of washing 6
It needs to be bought from the shop keeper person. If the player hasn't got the money from the kitchen AND the living room, a warning 'You probably won't have enough money to do the washing' should be given when they attempt to buy it.

some coins
Hurrah, you're rich.
Living room (15)
Weight 1
Can be picked up.

a pile of dirty clothes
It's a ragged heap of dirty clothes. They all look like they could do with a jolly good wash. Maybe you should think about that.
Bedroom (16)
Weight 5
It can be picked up and moved, but only if the other pile (room 8) hasn't been picked up as well. It can be put in the BAG.

Other notes
Max weight carried – 9. If player doesn't buy a bag and makes two trips to the launderette, the washing will be stolen. If they try to wash the first lot while they collect the second, they won't have enough money or powder.

ProPrint VS. Pro-Ext

Last month we took a look at a ProText enhancer called ProPrint. Now Pro-Ext has come along so we thought Simon Forrester ought to compare them.

The *Pro-Ext* manual tells you that the idea for the software came about at a meeting of CPC bods. This meeting took place over a year and a half ago (I was there as well). It's one of those cases of incredible bad luck that it was beaten to the drop by Campursoft's *ProPrint*.

As far as what the package actually does is concerned, you'll just have to read the *ProPrint* review last issue (I see no point in repeating things). What we're going to do today is compare the two packages.

Help!

First off, documentation. *Pro-Ext*'s manual is laser written (actual letter quality, like this page), making it very easy to read, and contains all its information in small, easy to swallow chunks, though slightly shabbily written. There is also a little RAM manual in memory, which gives instant help on any *Pro-Ext* feature (help that maybe should have been included in the manual). *ProPrint*'s manual is completely different. It's printed using *ProPrint* and a 9-pin printer, but due to the quality of *ProPrint*'s print-outs, this doesn't make it at all difficult to read (it's also a very good example of *ProPrint*'s capabilities). Example font sheets and extra graphics sheets are also there.

Fonts

Enough about the manuals. If you've read last month's *ProPrint* explanation, you'll know that both packages are concerned with using new fonts and the like within *Protext*. Both packages come supplied with a range of fonts (though *ProPrint* has slightly more) that are ready for you to use from within the packages to get you going, but there is a problem. Whereas you're stuck with the fonts that *Pro-Ext* gives you, *ProPrint* comes with a comprehensive character designer, allowing you to create new fonts and alter existing ones, increasing the flexibility and power of the package no end. Sadly, *Pro-Ext* lacks this feature, and so unless Sentinel release either a font designer or extra fonts, *Pro-Ext* users will come a little unstuck.

Graphics

There is an area in which *Pro-Ext* wins hands down, and that is it's ability to print graphics. *ProPrint* lacks a graphics option altogether, whereas *Pro-Ext* has a graphics converter program, to let you use pictures of varying formats. This is fine for fancier letter heads, but has no use in fanzine layout, etc, as neither package has a columned text feature, and so would be useless for most DTP applications.

Easy like...

Just how easy are the two packages to use? Well, *ProPrint* uses an entirely new printer driver set up, and so employs the whole range of printer code characters to set up parameters, styles, etc. These codes, as well as a set of external commands (to be used through the *Protext* command line), cover all areas of printing quite well, and give a user friendly edge to the package. There are still a few control codes left unassigned, so you still have a few to play with if you want to.

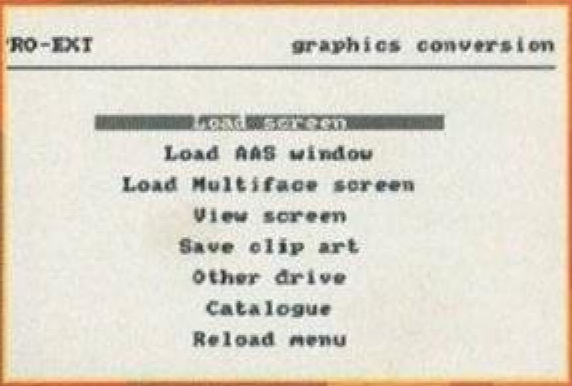
Pro-Ext's codes are not really as friendly. Only one control code is used (with *Pro-Ext* commands inserted immediately after), leaving more free to set up how you wish. This, however, isn't nearly as easy to use as Campursoft's package.

So, both packages have advantages. If you want to print graphics (clip art, etc), *Pro-Ext* is your only choice. However, if you want the ability to design or alter fonts to your individual tastes, you'll need *ProPrint*. The package to buy is, to be honest, *ProPrint*, as the lack of column facilities in either package make printing graphics fairly pointless (no use to DTP fans).

It's a real pity that *Pro-Ext* doesn't a font designer, or *ProPrint* doesn't have a graphics options, but that's just the way it goes, I suppose. These may be features that Campursoft and Sentinel look into in the near future, which would most definitely be a Good Thing. For now though, *AA*'s vote goes to Campursoft. ●



Yes, yes,yes, that's all very pretty and everything, but get on with it, please.



Those thoughtful people at Sentinel have even provided us with a graphics converter.



Pro-Ext comes supplied with a good library of fonts and a fair few bits of art as well.

Stop Press!

Shortly after this review was written, Sentinel announced that by the time you're reading this, they'll have a font editor added to the package (no prompt was given by us). This does even things up a little between the two packages, and we'll have more information on the font editor for you when we can.

Contact

If you want to get your hands on a copy of *Pro-Ext*, it'll cost £14.99 from Sentinel Software:

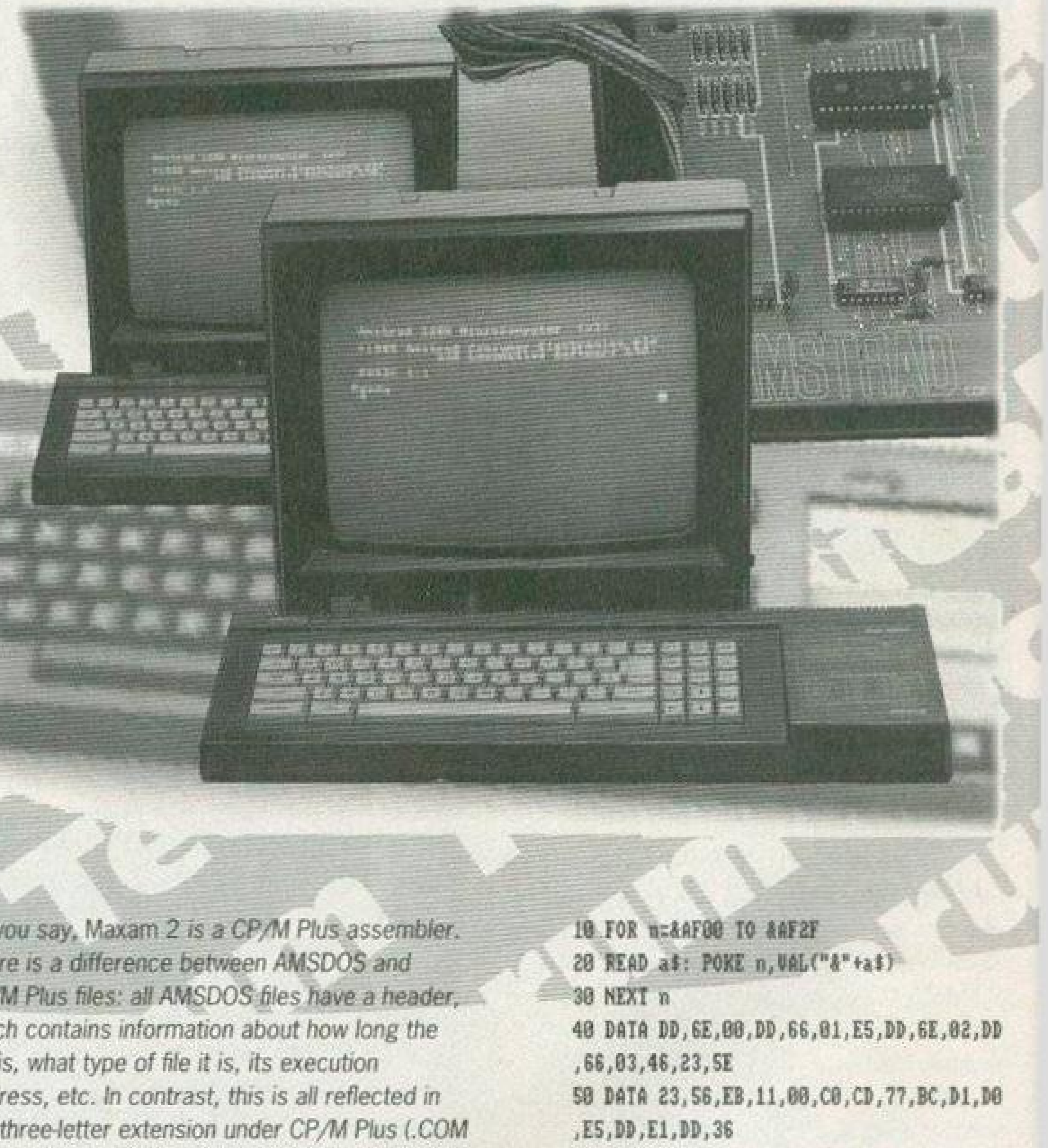
Sentinel Software
41 Enmore Gardens, East Sheen
London, SW14 8RF

For a copy of *ProPrint*, send £15.99 along to Campursoft, at the following address:

Campursoft
10 MacIntosh Court
Wellpark
Glasgow
G31 2HW

Technical Forum

Richard Fairhurst is our mate,
He writes the Techie Forum.
He tried to hold a meeting
But he didn't have a quorum.
(I've told you once. Out! – Ed)



Qs+As

Assembly defects

I have a 6128 Plus and Arnor's *Maxam 2* assembler on disc for CP/M Plus. It is great for editing listings, but I have a problem when it comes to loading and trying out my programs. I have tried some of Andy Price's routines and Simon Forrester's bouncing ball routine (AA93) and some listings of my own. They all assemble without errors or warnings, but the computer crashes when I `CALL &4000` (all the routines originate from `&4000`). I did get one routine to work, though.

I've tried loading all my other programs in this way, and by issuing `SYMBOL AFTER 256` (to collapse the user-defined character area), entering `MEMORY &3FFF`, loading dummy input files with `OPENIN`, and loading with `LOAD"filename.COM",&4000` (which usually gives a syntax error), but nothing seems to work. The computer always crashes after the `CALL`. I have used my Multiface 2 to check the area just above `&4000` after loading the routines, but it is full of zeroes, indicating that the computer hasn't actually loaded the data.

I would also be grateful if you could explain what BDOS is, if it is any use and how I can access it. Is it only available under CP/M Plus? Also, how do you get a machine code program of your own to run under CP/M?

Paul Yates
Bolton



(Never mind about a caption. I'm offering £5 for the best rhyme for 'Fairhurst'. – Ed)

As you say, Maxam 2 is a CP/M Plus assembler. There is a difference between AMSDOS and CP/M Plus files: all AMSDOS files have a header, which contains information about how long the file is, what type of file it is, its execution address, etc. In contrast, this is all reflected in the three-letter extension under CP/M Plus (.COM indicates a runnable CP/M Plus command, starting and executing at `&100`*, for example), so there is no need for a header.*

The only AMSDOS files which don't need a header are text files. Maxam 2 has generated a file without a header (as it's designed for CP/M use), so when you come to load the file into memory from BASIC, AMSDOS thinks that the file is a text file, and consequently refuses to load it directly into memory. This explains the 'Syntax error' and absence of any successfully loaded code.

Try reading through your Maxam 2 *manual to see if there is any way to generate AMSDOS-type files with headers on (using the extension* `.BIN` *may help).* Alternatively, the following listing will load in any headerless disk file to the address specified: type `CALL &AF00,"filename",address` – the code is fully relocatable.

```
10 FOR n=&AF00 TO &AF2F
20 READ a$: POKE n,VAL("&"+a$)
30 NEXT n
40 DATA DD,6E,00,DD,66,01,E5,DD,6E,02,DD
,66,03,46,23,5E
50 DATA 23,56,EB,11,00,C0,CD,77,BC,D1,D0
,E5,DD,E1,DD,36
60 DATA 41,FF,DD,36,42,00,EB,CD,83,BC,C3
,7A,BC,00,00,00
```

Save our screens

I have been learning machine code for about four months, and I have used it in my program *Death's Dark Dungeon* to print the 20x20 level map to screen. During the game I wish, when it is paused, for the instructions to come up. When it is unpaused, I cannot reprint the level because some of it changes. I need to save the screen: I have tried, but I just can't get it right. Please could you print a source code listing to save the screen to memory below 30000.

Also, how do you redefine ASCII characters from machine code? And how do you redefine colours in machine code – the equivalent to `INK 1,1` or whatever?

Simon Crabtree
Northallerton

The screen takes up 16384 (`&4000`) bytes in memory from 49152 (`&C000`). So all you need to do to save the screen is to copy these bytes to a safe place, and to restore it simply copy them back. The Z80 has a useful instruction – `LDIR` – to copy an area of memory (`BC` bytes long) pointed to by `HL` to the area at `DE`. You could use this to save the screen as follows:

```
ld bc,16384
ld de,13000
ld hl,49152
ldir
```

To restore the screen, swap the values after `ld de,` and `ld hl,`.

To redefine inks, use the firmware `CALL` at `&BC32`. Load `A` with the ink you want to change, and `B` and `C` with the two colours (0-26) that the ink is to flash between. For non-flashing inks, set `B` and `C` to be the same. Then `CALL &BC32`. (To set the border, use the `CALL` at `&BC38` – obviously, you don't need to set `A` for this.)

The first thing you need to do before redefining characters is set up the character table in memory, which will be filled with the existing definitions (just like a `SYMBOL AFTER` command). This is done by setting `DE` to contain the code of the first character to be redefined, and `HL` to contain the address of the table. Then `CALL` the firmware routine at `&BBAB`.

You can then redefine characters one-by-one. This is achieved by setting `A` to hold the appropriate character code and `HL` the address of the 8-byte matrix table (containing the same values as you'd place in a `BASIC SYMBOL` command), then calling `&BBA8`.

Access all areas

After perplexing for ages, I've given up, and need your help. I have a database of 500 or so small items, held on disk, and two problems.

1. If I want to read the nth item, my program has to read n-1 items to get to the one I want, starting from the beginning each time. If I want to read the 400th item, this is a time-consuming affair. Instead of storing the information serially, I have to make it 'direct access', but how the heck do I do this?

2. When it comes to sorting the above info, my poor ol' computer freezes every so often while it has a quick think. I presume it's doing a garbage collection, but this can take up to 3 minutes sometimes, causing a sort to take about 15-20 minutes. I've tried the following code: `|TAPE: OPENOUT "d": MEMORY HIMEM-1: CLOSEOUT: |DISC` but this doesn't really help – only when saving or loading. Trying to be clever, and not really knowing what I was doing, I tried increasing the `1` after the `MEMORY` command, but I just knackered it up even further.

I just cry out for help!

C J Locke
Chelmsford

One of the biggest failings of AMSDOS is that it can't cope with random-access files of the sort you require (the other failing being its support of only three disk formats). Adding such facilities to it is possible (I remember an extremely long machine code listing in Popular Computing Weekly in the mid-80s), but very difficult and fraught with incompatibility problems.

The best way to get around it is to hold all your data in memory, which can be randomly accessed, only accessing the disc to load at the beginning of a session and save at the end. 500 items may stretch the memory of your CPC a little – if you have a 6128, try using Bank Manager, the program supplied on your system disks, to store the data in the extra 64k.

You could split the data up into a number of files, which would mean that instead of opening the single data file and reading to the 400th item, you store the data in (say) files of 100 items each and read from the appropriate one. The most drastic solution is to use a different programming language running under CP/M, which does support random-access filing.

Demo gallery

Yo Loki, from Anonymous Town! I read your letter, and I agree: hey, everybody, what are you waiting for? Get demo-ing!

Unfortunately, I cannot do raster bars, and (head hung low) I can't seem to get to grips with overscan.

I've also sent a letter to US Gold, asking them about the delay on *Street Fighter II*. Here's hoping!

Watch out for my first demo, too!

Tate

The raster principle is a very useful one to get to grips with for any aspiring demo coder. There are certain facts you need to know to understand it, most importantly, how the picture you see on your screen is displayed. A small electron beam lights up each pixel on your monitor, starting with the top line and ending at the bottom, and drawing each line from left to right. At the end of each line, the electron beam has to return to the left of the screen, and at the bottom of the screen (in a phase known as 'frame flyback') it has to move back up to the top.

This happens 50 times every second, with each complete scan of the screen being called a 'frame'. It is possible to synchronise your program so that a certain piece of code is executed while the electron beam is at a certain point on the screen: so, at the start of one screen line, you could change ink 0 to (for example) blue, then on the next line bright blue, with sky blue on the next line, followed by bright cyan on the line after that. If you then reversed this for the next four lines, you'd have a blue 'raster' (or, more properly, colour bar).

So, how do you synchronise your demo in this way? First of all, the demo's main loop must execute in one frame – lasting one-fiftieth of a second. To make the loop run from the beginning of the period of frame flyback, use this piece of code:

```
     ld b,&F5
.ff1 in a,(c)
     rra
     jr nc,ff1
```

To get to a certain point on the screen, use a delay loop and adjust the length of it by trial and error until the electron beam is the right place. You can then change inks using the Video Gate Array, as explained in last issue's Techie Forum (see the letter Video Star).

This is all well and good, but what happens if you want to put a colour bar at the foot of the screen? If you've had any sort of conditional action earlier in the main loop, which means that a different piece of code might have been executed (and so a different amount of time taken up), you won't be able to be sure of where the electron beam is. What you can do is wait until the electron beam is at one of six points on the screen.

If you've used the above method, you'll have had to turn interrupts off (using the `DI` op-code), to stop the CPC's service routines jumping in and messing up your timing. Turn them back on again, but replace the CPC's interrupt routine (store at `&38`) with your own, which simply puts interrupts back on – they're disabled as soon as an interrupt routine is entered – and returns. You can do this as follows:

```
ld hl,&C9FB
ld (&38),hl
```

That way, you can wait for one of the six regularly-spaced interrupts to occur, using the `HALT` op-code, and then you'll be back in time.

As to your overscan problem, it's difficult to know how to help. If you write to Techie Forum with a description of what you're doing, I'll take a look. You may be interested to know that the fanzine Artificial Intelligence has just started a demo column, intended both as a tutorial and to answer your questions (19 Lee Street, Liversedge, West Yorkshire WF15 6DZ).

It's good to see an emerging British demo scene at last (although, readers, don't be fooled – not all demo coders say 'Yo' all the time). About time too. And to all those who say that demos are useless, well, so are games. Some people derive pleasure from games, others from demos. Let the programmers code what they want – just be thankful it's for the CPC. Here endeth the lesson.



Just pull on your coding trousers and get to it. Maybe you'll produce a masterpiece.

Microsoft BASIC-80 (available from PD libraries) might help, or you could take the opportunity to learn a completely new language – C, for example.

From your garbage collection problems, it sounds like you have a 464. BASIC 1.0 has a design fault in that it carries out this process much too frequently, and reserving a file buffer (as you've tried to do) won't solve the problem except that BASIC won't need to do a garbage collection to set up a new file buffer every time it wants to access the disk. If you've considered upgrading with a 40025 chip to BASIC 1.1, now's the time to do it.

If you have another CPC, or don't want to upgrade, your problem is with the sort routine. In particular, if you're using a bubble sort, this is a highly inefficient method of sorting and requires many transactions (and hence plenty of garbage collections). A slightly modified version, the delayed replacement sort, will give better results.

As you know, a bubble sort works by taking each item in turn, and finding the next item in the list with a lower value: the two are then swapped around. This is repeated for each item in the list. With a delayed replacement sort, you search through the list to find the item with the highest value, and swap this with the last item that hasn't been sorted. This means that the area still left to be sorted is diminished by one item.

Even greater savings will be found if you use this with the Bank Manager, because that doesn't need to carry out any garbage collection. You could also try a machine code sort routine, such as that found in the book Master Machine Code on your Amstrad CPC 464 & 664 (from Sunshine Books, now out-of-print: ISBN 0-946408-80-7).

Audio/video

In AA88 you did a feature on the Videomaster which looks really good. Unfortunately, it shows you the side view of a 464's audio connections, which look nothing like mine. In fact I don't have an audio output on my 464: on the rear panel I have a monitor port, a 5V DC port, a floppy disc port, a printer port, a user port and an I/O port, whatever that is. Does this mean I will not get sound coming through the telly?

I subscribed to **AA** and got a free Cheat Mode book. I don't have a Multiface. I have tried to type in the poke listings on five or six different games and type RUN and the small ENTER key, and I get nothing. I would like to get a Multiface but don't want to spend money if it won't work.

Donald Sinclair
Clydebank

Amstrad fiddled around with the case design of the CPC a number of times. On early 464s like yours, all the connections are on the back: the I/O port (Input/Output) is the audio output which you plug into the Videomaster.

Are you running the pokes correctly? You shouldn't hold down CTRL and press the small ENTER key as you would usually to load a game, but instead simply type in the word RUN (no inverted commas afterwards) and press ENTER. If they don't work, you've made a typing mistake somewhere. Multiface pokes are very easy to enter if you follow the instructions, so there shouldn't be a problem if you buy one.

Real errors

I am writing a set of RSXs in machine code to provide certain extra facilities for BASIC, such as box drawing. My problem comes when I need to generate an error: I can print 'Syntax error' and return, but the BASIC program calling the RSX just carries on after this. Is there any way in which I can create a proper error, like BASIC's ERROR command?

Bobby Welch
Exeter

There is an address in the BASIC ROM which will perform the requisite task. All you need to do is set the error number in A, and CALL the routine. The address is &CA93 for the 464 (BASIC 1.0), and &CB55 for all other CPCs (BASIC 1.1). So, the following would generate a Syntax error on a 464:

```
     ld a,2
     rst 3
     dw far
     ret
.far dw &CA93
     db 0
```

A quick and easy way to check which CPC is being used is to find out the contents of memory location 6. If PEEK(6)=128, then a CPC 464 is being used.

What to do with a Spectrum

I am an owner of a CPC 464 and a Spectrum +3. I have tried with no luck to sell the Spectrum for about two years to enable me to buy the memory expansion and disk drive for my CPC. I was wondering if, by any chance, the disk drive from the +3 could be removed, re-cased and used as the disk drive for the CPC. I was also wondering if the memory from the +3 could also be installed into the CPC.

Marianne Tucker
Wiltshire

It's not just a matter of connecting a disk drive to a 464: you need an interface, too. Try 'phoning Siren on (061) 724 7572 and ask them if they'd

Diskussion

Thanks for a great mag (blah, blah, blah). I have a 464 Plus and followed the 64k upgrade in AA90: it all went okay!

A couple of weeks later Ibought the Siren Software disk drive. I now have a few questions to put forward.

1. How do I transfer multiload games like North and South and HeroQuest to disk? The Multiface doesn't do this because it only saves what's in the memory.
2. In issue 91, you pointed out that a certain wire had to be cut when connecting a disk drive. Do I need to do this?
3. When I format disks I only have 178k to work on. How do I increase this? Magic DOS only works on a B-drive.
4. Where can I get games on 3.5" disk?
5. Where can I get a word processor on disk for the 464?
6. Are you going to print some more Multiface cheats?
7. Sometimes the top left-hand side of my screen goes all discoloured. Why does it do this? Is there something wrong?

Iain Heard
Milton Keynes

1. You'll have to check out tape-to-disc specialists to see if they have any programs that will transfer those programs in particular – there's nothing that will transfer all multi-load games. Try Avatar (0442 251705) or STS Software (c/o Campursoft, 10 McIntosh Court, Wellpark, Glasgow, G31 2HW).
2. Not if you bought the Siren drive intended for the 464 Plus, no: the chaps at Siren know what they're doing and will have done this for you already.
3. You need an operating system that can cope with large-formats on the A-drive. Either Avatar's MS800 or STS's S-DOS will do this – S-DOS is the better system, but you need a ROM-board to be able to use it.
4. You can get PD games on 3.5" disk from a few PD libraries. Commercial games, unfortunately, you can't.
5. How about transferring our covertape program Tasword to disc? You could also try the PD topper VDE, available free from the nice people at Sheepsoft (send a disc and an SAE).
6. Yes, if people send them in!
7. This shouldn't happen. It's possible that this is being caused by your monitor being placed near a magnetic source (like hi-fi speakers), which is a Bad Move. Move any speakers away and see if the problem disappears. Otherwise, it's off to the repairman: try STS (address above) or ERC (0733 371279).

Or probably lots of other companies with three letters in their names.



And here's a picture of that Siren disk management-type software. Probably.

give you a discount off their first drive package if you supply the drive mechanism from your Spectrum.

Even worse news with the memory: there's no space inside the 464 to fit any extra memory, so there isn't much of an alternative to buying the extra memory. Sorry!

Top Tips

Spring fever

For the past two years I've had problems loading games on my 464 Plus, especially covertapes. Martin Henderson who wrote into AA88 was right, but there is an easier way to resolve this. Basically it is the spring on the eject which is too tight. By opening up the computer and locating the V-shaped spring you can fix this.

Just pull the spring together so that it is not so long and it will loosen the grip on eject so that the tapes are not held so far away from the heads. Don't laugh, it really works and it's easy.

To add something to this, I have located *North and South*. I know many of you have been looking for the game and have had no luck. My local software dealer can order it within two days and you can contact me (0908 676146) if you want to order a copy – disk or cassette.

Iain Heard
Milton Keynes

Thanks very much: I'm sure 464 Plus owners everywhere will be grateful. Be careful not to lose the spring while attempting this trick, though...!

Tasword tip

When printing from *Tasword*, if, like me, you get fed up with selecting 'S' for single-sheet paper every time, just enter the following line after selecting 'B' to enter BASIC, and save it:

```
75 POKE p+34,83
```

C J Locke
Chelmsford

Plus (two)

A reader in AA90 said he had troubles using his Multiface 2 on a 464 Plus. The problem could be the one I had: to make the Multiface invisible, you must press the red button as soon as the computer is switched on, when it asks you to press f1 or f2. If you press the button while in BASIC, it will try to access a tape recorder and crash the machine. Also, if you want to check the memory while programming in BASIC, you must enter `10 GOTO 10` and run before pressing the button, to avoid losing your program.

P J Yates
Chelmsford

Polyfilla

Filling an area of memory with a byte can take quite some time if you simply use a machine code loop. Our old friend, the `LDIR` instruction, can do the task in much less time. Say you want to fill all the addresses from `&4000` to `&5FFF` with the byte `&80`. Here's how you'd do it...

```
ld hl,&4000
ld de,&4001
ld bc,&1FFF
ld (hl),&80
ldir
```

How does it work? First of all, you initialise the starting address (here `&4000`) with the byte. The `LDIR` instruction copies this to the next address, `&4001`. It then proceeds to copy the byte from `&4001` to the address after that, `&4002`... of course, `&4001` has already been set to `&80` by the first stage of the `LDIR` instruction – and so it goes on.

An even quicker way to clear memory is to disable interrupts, set the stack pointer to the top of the area that you want to clear, set HL to the appropriate value, and `PUSH HL` lots of times. This is a bit fiddly for most uses, but if you're coding a whizzy shoot-em-up and speed is of the essence, you might find it useful.

ROMDOS revenge

If you copy a whole load of files onto a ROMDOS 256 directory entries format disc (such as one formatted in D20 format), using *Maxidos*, for example, you may find (on `CAT`aloguing the disc) that a number of them disappear and that a strange 144k file with a seemingly corrupt filename appears in their place.

Don't panic: this happens because the `CAT` command can't cope with more than about 140 files. There are two solutions to the problem: either split files between different user areas, so that there are no more than 140 in each, or use the `|DIR` command. Alternatively, if you have a side-switch, you might like to use a single-sided format and put 128 directory entries on each side. This gives you just as much storage without the annoyance created by exceeding 140 files.

Screen two

A favourite trick of BASIC programmers is to issue a `MEMORY &3FFF` command, then flick between two different screens using `CALL &BC06,&40` and `CALL &BC06,&C0` (one screen is at `&4000`, another at `&C000`).

Don't. Or rather, don't do it in this way. If you do, your program will work on the 464 and 6128, but not the 664 – and there are still quite a few of us 664 owners out there. Instead, use `CALL &BC07,&40` and `CALL &BC07,&C0` – a small modification, true, but it works on all machines.

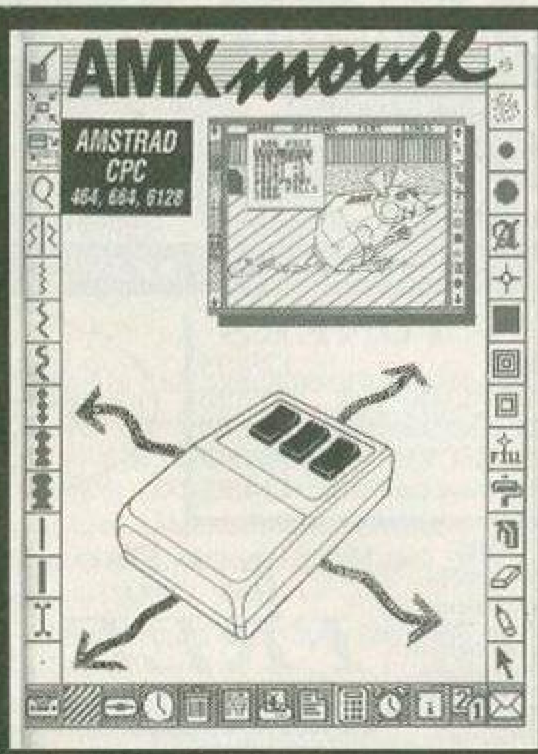
Letters and stuff, please, to: **Amstrad Action, Technical Forum, 30 Monmouth Street, BATH, BA1 2BW**. Thank you. ●

Six-pack

1. I have a Multiface 2 and I've saved many tape programs to disc on my 464 and DDI-1, but when I plug the same Multiface into the 6128 and try to load these programs, they don't work. Why?
2. If I were to buy a Siren 3.5" disk drive for another 464, would the FD-1 second drive I have be compatible with the Siren interface, so that I could run the FD-1 as a first drive?
3. Can the 64k dk'Tronics RAM-pack be used with the 6128?
4. Where can I get a lead to connect a 3.5" second drive to the 6128?
5. Is there a way to draw pictures with over 4 colours on *OCP Art Studio*?
6. Can you recommend a good DTP package (other than *PowerPage*) that is compatible with the AMX Mouse and produces quality print on a DMP 2000.

R Tedman
Chatham

1. Multifacedz programs saved on one type of CPC won't work on another. However, you can get around this by using a PD program called 'Anti-Multiface', available from most PD libraries.
2. The Siren first drive interface usually only runs one drive at once, but you can buy a cable from Avatar (0442 251705) to connect an extra drive. Connecting your FD-1 as a first drive and your 3.5" as the second drive should then be possible.
3. Well, it can, but it won't do you any good. The extra 64k is already supplied in the 6128, and the RAM-pack will simply duplicate this. It won't give you any extra memory.
4. Try Siren or Avatar.
5. Art Studio itself won't let you, but if you buy Advanced Art Studio, you can do everything that Art Studio does, plus paint in the 16-colour MODE 0, and lots of extra things. Well worth it.
6. Stop Press costs rather a lot, but it will do what you require. It's quite tricky to get hold of these days: try ringing up the mail order suppliers in **AA** *and checking if they have any copies left. Alternatively, scour the small ads. (But keep an eye out for a review of Micro Design 2 and our forthcoming DTP round up before you commit yourself. – Ed)*



Hoots mon, there's a moose loose aboot this hoose. Another classic from the '50s.

Hard Drive

40Mb hard drive ■ Campursoft ■ £220

Hurrah for Campursoft. The CPC has waited years for a hard drive. Now it's got one.

For years now, 16-bit computers and just about every other machine has had something that CPC users could only dream about (apart from a fab computer). This was a hard drive. So what's a hard drive? Well, you can do either two things to find this out. You could either read the huge storage feature we ran a few months back, or read on ('Hi' to all those readers who've just joined us).

A hard drive is, put quite simply, a disc drive with a disc you can't remove. The fact you can't remove the disc means it can be attached much more firmly to the mechanism, etc. This, in turn, means that you can store information in smaller, more delicate magnetic patches, thus fitting more on a disc.

Hard drive capacities range from 16MB to 100MB, though you can still obtain even bigger hard drives than that. The physical sizes still stay pretty much the same, being about two or three times that of a 3.5" disc drive. So why haven't we seen such a fab device on the CPC? Well, no-one's really sure, but it's fairly obvious to see why no-one's tried all that hard – an entirely new operating system would have to be written, to use the non-standard (to the CPC) storage system. So why are we telling you this if it's so impossible? It's obvious really – Campursoft have managed it!

The Campursoft hard drive (let's call it Herbie for argument's sake) is a wee beastie that stores 40Mb of data. That's getting on for 50 ROMDOS discs. Just think about how you could use one:

- Back-ups – If you're into backing up software, you could use a hard drive to store an entirely backed up games collection, meaning you would never have to mess around with all those individual discs again (originals, I hope).
- Public Domain – Ask any PD librarian. Once you get a reasonably sized library going, you'll live among a small mountain of discs. What better, then, than to take all these discs, and archive them (maybe using SafeSoft's new disc archiver) onto your hard drive?
- Bulletin Boards – For a system requiring vast amounts of memory (due to the huge amounts of messages and library software they need to store), an extremely high capacity storage system is needed quite badly, really.
- Look, it's a hard drive, okay? You store much more stuff on it than you would a normal disc. Work it out for yourselves! Gah!

Ahem. This project was first approached by Simon Cobb (Siren Software) quite a while back, but, due to problems getting a CPC to handle data coming from the drive, the project was scrapped. The problem is a simple one – when information is sent from a hard drive, it's handled by a high powered interface. The CPC, being originally designed a long time before such powerful bits of kit were developed, can't cope with information at anything like the same kind of speed. The data, then, is being transmitted far too quickly for the CPC to process it properly. Think of it as being equivalent to trying to run NASA with a ZX81. Whatever the weather, though, all these problems have been overcome by various means, and so Campursoft can now sell you Herbie!

Prices on hard drives are a little overpowered as well. A standard drive can cost anything from 'a little pricey' to 'you mean that much cash exists?', but Herbie will only cost you a 'hmm, I might buy that'.

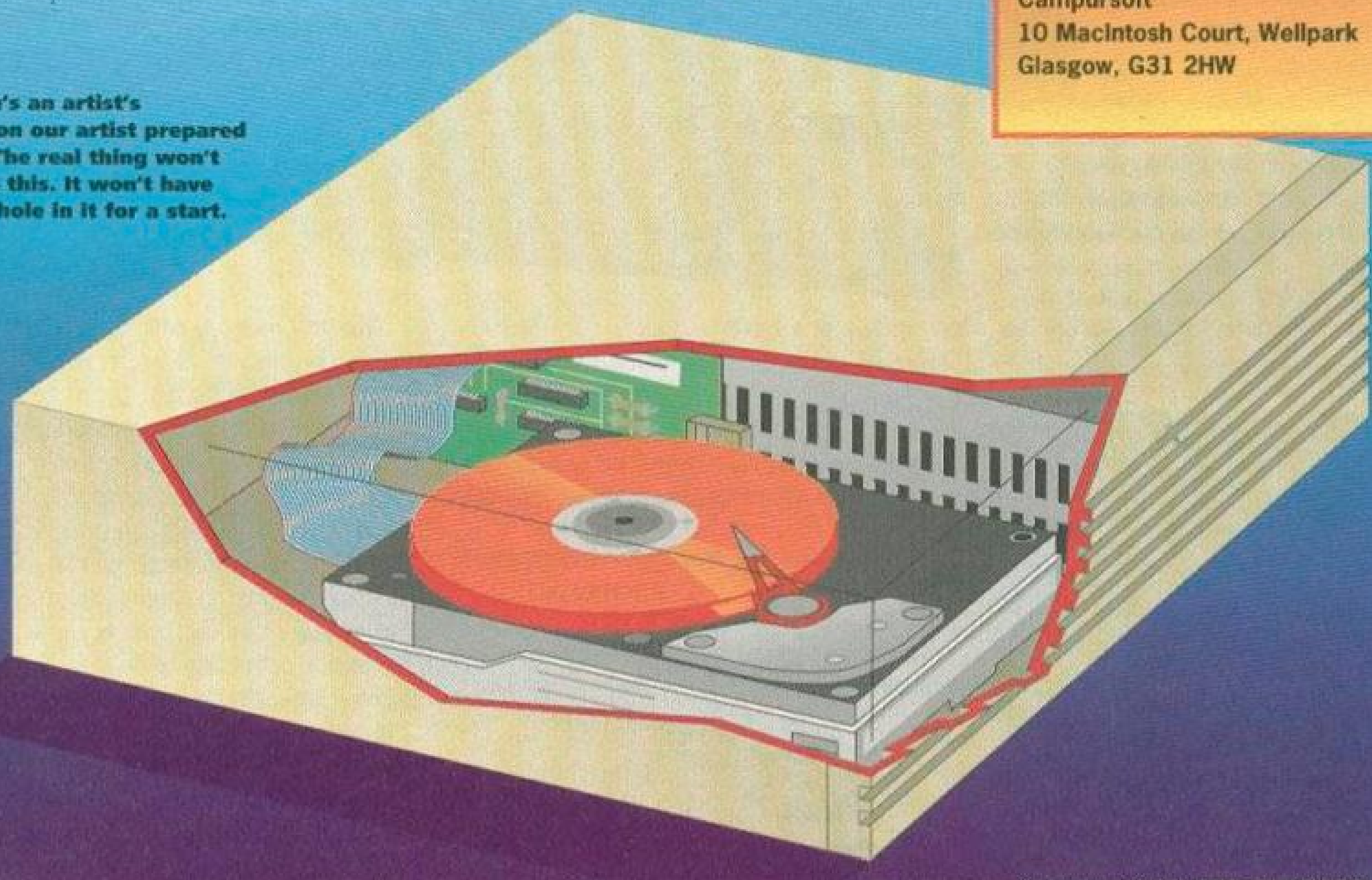
Herbie does have one little thing troubling him, though – he doesn't get on all that well with CP/M (hey, who does?), but that should have all been sorted out by the time you're reading this. The AMSDOS system is set to work in very much the same way as ROMDOS (but with Herbie on the back), with an obviously much higher storage capacity, but this does suggest the whole thing will be very easy to use, and should be available on power up (you won't have to faff about with start-up discs, etc).

All in all, we think Campursoft are really onto a winner with Herbie. If you're sick of fiddling around with umpteen discs, you really should think about how Herbie could help you – go on, give 'em a ring and buy one. ●

CONTACT

Go, on, give the boys a ring and purchase your hard drive for no more than £220.

Campursoft
10 Macintosh Court, Wellpark
Glasgow, G31 2HW



And here's an artist's impression our artist prepared earlier. The real thing won't look like this. It won't have that big hole in it for a start.

Assembly Line

Simon decides it's time to powder his program's nose a little, and produce a sort of pinging noise.

We've got a little ball bouncing around. Wow! And we've even got a little bat! Groovy, huh? But even PD games don't look as bad as the monstrosity we've got in front of us at the minute – we need a little style here.

This month we'll be looking at defining user characters, and making a few noises. We could snazz the whole thing up with proper sprites, but I'm going to leave that till a little bit later.

It's character forming

First off then, designing your own characters. What we are actually going to do is write a little program to design the character in question, and tack it onto the end of our program. Let's start with the firmware routines. In BASIC, before you would use the `SYMBOL` command, you'd issue a `SYMBOL AFTER` command to tell the computer what characters you will be re-defining. The same has to be done in machine code, using the following firmware call:

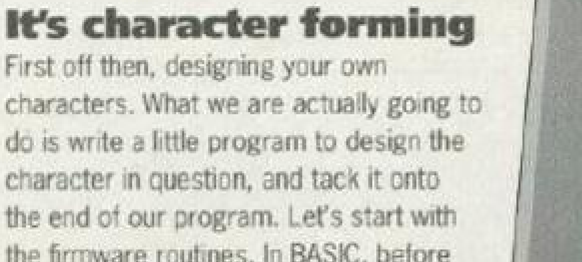
`TXT SET M TABLE - &BBAB`

Set the user defined matrix table and the number of characters in the table. The table is initialized with the current matrix settings.

Entry conditions:

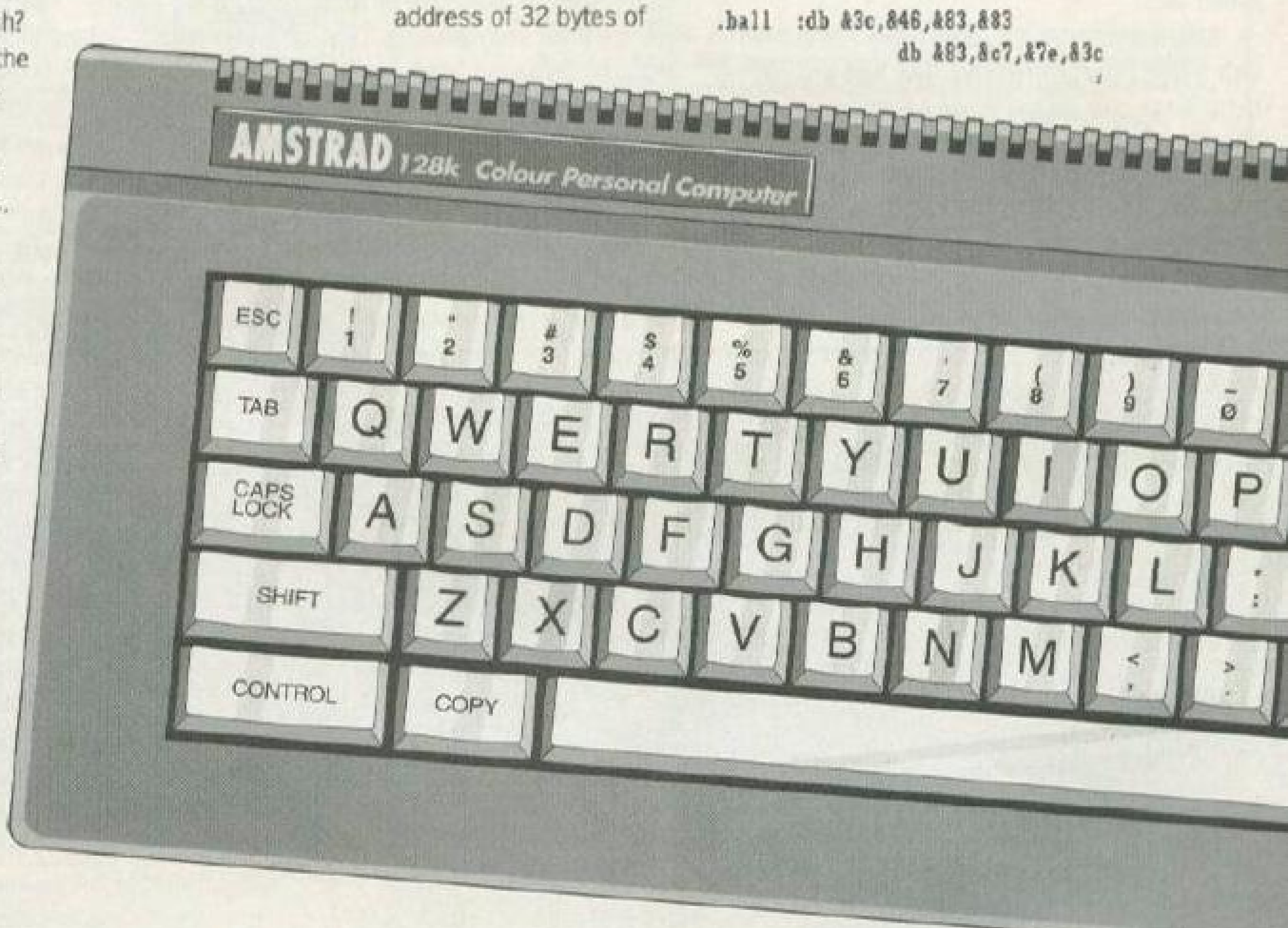
`DE` contains the first character of the table

`HL` contains the address of the start of the new table



Machine code, smachine code. If you don't understand it, it won't be long until you do.

Now, each character is made up of eight bytes, so the length of the table is the number of characters multiplied by eight, or (256-first char)*8 bytes long. We are defining four characters (the equivalent of a `SYMBOL AFTER 252`), so `DE` will contain 252, and `HL` will contain the address of 32 bytes of free memory.



Next, we need to define the character with the equivalent of a `SYMBOL` command:

`TXT SET MATRIX - &BBA8`

Set the matrix for a user defined character. If the character is not user defined then no action is taken.

Entry conditions:

`A` contains the character whose matrix is to be set.

`HL` contains the address of the matrix to set.

And so a routine to define the ball would looks something like this:

```
org &4000

ld de,252
ld hl,table
call &bbab

ld a,252
ld hl,ball
call &bba8

ret

.ball  :db &3c,&46,&83,&83
        db &83,&c7,&7e,&3c

.table
:ds 32
```

The only remotely difficult thing to master is the way in which the character data is laid out. It's quite simple in the end, but make sure you understand it – we won't be covering it again.

A normal CPC character sits on a monochrome (one colour only) grid, eight squares across and eight squares high. Once we've designed a character on that grid, it can be converted into numbers quite easily. Imagine the top row of the character is a binary number, the filled in cells being binary bits. The binary number is `&x00111100`. In hexadecimal, this reads `&3c`, hence the first byte of our data. Subsequent bytes are merely subsequent rows.

So now, all we need to do is replace the accumulator value with which we call

&BB5A with the value of our new character, and our tacky little star become a nice little ball (who's tackiness is purely due to me being an abysmal artist). You can do exactly the same type of thing to the bat, and the whole normal alphabet if you want, but hey – let's not get carried away here.

Sounding Off

Ugh. What a naff heading. Oh well, it's got to be better than 'Make Some Noise' – magazine headline 428 (Schaffer's Big Boy's Book Of Publishing). Whatever we call it though, all we want to do is produce a bit of sound. There are two main ways to do this:

- Hardware – using large amounts of technical and speedy machine code, and writing the notes straight out to the hardware sound port thing. It's complicated, and you wouldn't understand it – I'll cover that later on in the series.
- Software – using the CPC's in-built firmware commands (just like &bb5a to print a character, etc), which are used in pretty much the same way as BASIC's sound handling commands. Let's take a look at the firmware calls in more detail:



SOUND TONE ENVELOPE – &BCBF
Sets up a tone envelope (equivalent to BASIC's ENT command).

Entry conditions:
A contains the envelope number (1 – 15).
HL hold the address of the data block.

The data table is set up as follows:

0	Number of sections
1 – 3	Section
4 – 6	Section
7 – 9	Section
A – C	Section
D – F	Section

Each section is constructed of three values:
1 Number of steps
2 Step size
3 Step length

So everything is pretty much identical to BASIC's ENT command. Setting up volume envelopes is just as easy, using:
SOUND AMPL ENVELOPE – &BCBC

The only thing to be careful of is that bit 7 must always be set on the step count byte. If this is confusing you, just add 128 to the value, and worry about why another time.

Make a noise

Now to make the sound:
SOUND QUEUE – &BCAA

Add a sound to the sound queue.
Entry conditions:
HL contains the address of the sound table, which must be situated between &4000 and &bfff.

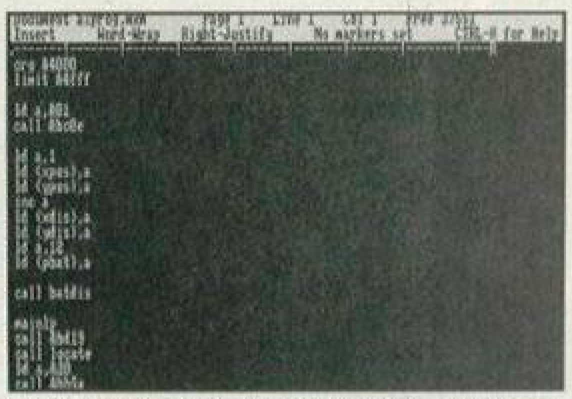
The sound table has the following bytes:
0 Channel status byte
1 Volume envelope
2 Tone envelope
3 & 4 Tone period
5 Noise
6 Volume
7 & 8 Duration

So let's cut the wibble and make some noise! *(Tacky, tacky, tacky. – Ed)*

```
org &4000
  limit &4fff

  ld a,1
  ld hl,envtab
  call &bcbc

  ld hl,sndtab
  call &bcaa
  ret
```



There comes a time in every caption writer's life when he just says, 'Enough is enough.'

```
.envtab:db 1
        db 143,&ff,10
        db 0,0,0
        db 0,0,0
        db 0,0,0
        db 0,0,0

.sndtab:db 7
        db 1
        db 0
        dw 758
        db 0
        db 15
        dw 1
```

You'll see that in the routine we've just written (well, I've just written), we're only using one envelope – volume. The value 143 is simply 15 with bit 7 set. The value of 0 for the tone envelope signifies that we're not using one this time. The duration counter has changed because we're using the volume envelope, and now states how many times to play the envelope – once. The envelope step size is 255, because this is the way in which machine code represents -1 (because zero can also be expressed as 256 as far as 8-bit numbers are concerned).

The one thing you may be confused about is the channel status byte. Well, we're constructing a binary number with the following bit settings:
0 – Channel A
1 – Channel B
2 – Channel C
3 – Rendezvous with A
4 – Rendezvous with B
5 – Rendezvous with C
6 – Hold channel
7 – Flush the queue

So to get a sound on all three channels, you need to set bits 0, 1 and 2. This gives us a number of 1+2+4, which is 7.

Nearly done now

There's not really much else to this, really. You might like to try writing a little tune to throw into our game (remember the game?), using a simple little table reference routine to read the notes from. You can find the full table of notes and an in-depth explanation of how envelopes are set up in your CPC manual, or the London School of Economics is currently offering degrees in Envelope Studies. Either way, have fun, and make sure you read the next episode. ●

Adventures

The Balrog's finally gone wherever it is Balrogs go, so we asked Debby Howard to come along and say a few words about the world of adventures. Hurrah.

Letters

Tolls 'n' Trolls

In *Eve Of Shadows*, how do you get across the toll bridge where the troll is? There is also a game I want where you have to build your own city, country etc, but I don't know what it is called or where to get it?

Oliver Ovenden
London

Well Oliver, In Eve Of Shadows *you need to 'Put coin in box' twice, of course first you have to get the coins, so you'll have to go to the tavern first.*

The game you are thinking of is called Sim City *by Infogrames. It's best to phone around to get the best price for the game. Try the adverts in this months* **AA**.

Injecting Clingons

I have two questions to ask you. What kind of tapes should I send to Adventure PD? I can only get my hands on 90 minute ones. Also in AA90 the tip 'Inject Clingon with anaesthetic' appeared for *Smashed*. The trouble is I can't find any Clingon in the first place.

Laurence Boyce
Leeds

You can send either C60 or C90 tapes to Adventure PD, although you'd better hurry up – Adventure PD is about to close. As for Smashed *you'll need to 'follow footprints' east, north, north, north, of where you find the anaesthetic to find the clingon.*

But where?

Each month I read the Balrog pages of the AA magazine and my imagination is fired-up about the games you talk about. But where can I get hold of the games you rave about on a disk which is compatible with my Amstrad 6128 Plus? It's hard enough to get my local shops to stock football games but if I ask them for something like *Helvera, Mistress Of The Park* or *Eve Of Shadows* they simply stare at as if I'm 'Erik The Viking' and I haven't got a 'Cluepot'.

Remy Oliver
Wolverhampton

You can get Helvera, Mistress Of The Park *from WoW software. However* Eve Of Shadows *is Public Domain and can be found in most libraries. It's best to get in touch before ordering to find out whether an adventure is compatible the 6128 Plus machines. Check the 'Where To Go' section for the addresses of the adventure specialist software companies.*

Stop Tolkien and listen

I'm very stuck in *Hobbit*, *Lord Of The Rings* and *Shadows Of Mordor*, and I wonder if anyone can help. First, in *Hobbit* I can't find the ring. Secondly, in *Lord Of The Rings*, I'd like to know how to get to the end of the game with the ring and Strider. Third and lastly, how do you get down the cliff without making a juicy splat at the bottom?

David Gardiner
Gwent

I'm afraid I can't help you much in The Hobbit, *perhaps someone else knows the answer to that one. But as for* Lord Of The Rings, *you'll need to give Pippin and Sam a jewel each (keeping the third for yourself), and then once you've met the three Black Riders, throw your jewel at them, Pippin and Sam will do the same. Don't forget to say 'O Elbereth Gilthoniel' beforehand though. With* Shadows Of Mordor *you'll need to cut a tree and get the branch then lever the stump over the cliff.*

Where To Go!

If want to buy the latest adventures released, here are a couple of places to look for new and re-released software. If you send them a stamped self addressed envelope, they'll send to you their latest software list.

WoW Software, 78 Radipole Lane, Weymouth, Dorset, DT4 9RS.

The Adventure Workshop, 36 Grasmere Road, Royton, Oldham, OL2 6SR.

Lords & Ladies of Adventure

If you're stuck in a game listed below, these kind souls are willing to help you. Please remember to enclose a SAE with your enquiry and DON'T ask for a full solution – you'll almost certainly be disappointed. If you want to become a lord or lady please write in with your full list.

Most Amstrad adventures
Joan Pancott tel (0305) 784155 between 1pm and 10pm

Adult 2 ● Can I Cheat Death? ● Dungeon ● Firestone ● Jason & The Argonauts ● Spacy ● Tizpan ● Welladay
Stuart Mainland, 2 Douglas Road, Coylton, Ayr, KA6 6JJ

Avon ● Forest At World's End ● Hollywood Hyjinx ● Kobyashi Naru ● Mordon's Quest ● Scapeghost
Angela Allum, 22 Point Royal, Bracknell, RG12 7HH

News 'n' Stuff

Who's afraid?

Talking of the Balrog, if you're enjoying playing the GAC competition winner's adventure, *Who's afraid of the Balrog*, you might be interested to know that WoW software are selling the game on tape and disc. And just in case you were wondering who exactly Marlon are, I can tell you that it is none other than two well respected and loved ladies from the adventuring world, Lorna Paterson and Margaret Crewdson. They felt that if they used the pseudonym Marlon, the adventure would have to stand on its own merit! I can now tell you that the sequel is on its way, and of course that will be sold by WoW software too.

An apology

In issue 93 of ***AA*** Ken Dean from Lowestoft was listed as a Lord of Adventure. Unfortunately Ken died last Christmas, and will be missed as a friend. My apologies go to his wife and his family for any distress caused by this error.

Find that adventure

There have been quite a few letters in the post bag requesting information on how to get hold of some of the old adventures, such as *Bards Tale, Lord Of The Rings* etc. I can highly recommend Simon Avery's 'Adventure Finder' service. It works like this. If you want to sell an adventure write to Simon with all the details (name of adventure, disc or tape, price wanted etc). He will then enter all the information into his database. Then when he has all that information he can pass it on to someone who wants to buy your adventure.

If you're interested in buying an old adventure all you have to do is write to Simon (enclosing a stamped self addressed envelope), and he will send you the details of that particular adventure. Simon has quite a few in his database (around 200 adventures), so you'll probably find what you're after, and he doesn't even charge a fee. Write to Simon at: **Grimwold Enterprises, Hamlyn's Cottage, Old Exeter Road, Chudleigh, South Devon, TQ13 ODX.**

I could do that

Philip Reynolds the proprietor of The Adventure Workshop is on the lookout for new authors. If you have written a game that you think would be good enough to retail, please get in touch with him, all tapes and discs submitted will be returned. Address found in the 'Where To Go' section.

Farewell Adventure PD

Adventure PD will be officially closing on the 30th September 1993. No orders will be accepted after that date. Anyone interested in taking over the running of the Public Domain should get in touch before that date.

Clues

I've got very few clues for this section, so if you'd like to help fellow adventurers out of a jam, please send in your tips and hints for any of the adventures you've played. My thanks to Stuart Mainland (Ayr), Jonathan Hoey (Co. Down) and Adrian Lybaek (Canada), for the following.

Dungeon

- Kill the squirrel to get some flies but you'll need fly paper to catch them.

Five on a Treasure Island

To get onto the kitchen garden you must:

- Bring Julian into the sitting room.
- Become George and position her in the dining room.
- Become Julian again and turn on the wireless. It will give a storm warning and Joanna the cook will come in to turn it off.
- Become George and go west into the kitchen.
- Open the door and go west into the garden.
- Get the onion and the spade.
- Go back into the kitchen. Joanna will take you back to the dining room.
- Go to the sitting room and drop all.

Heroes Of Karn

- Drink the white potion to become immune to the firegates.
- Get Beren to kill the bat with the falcon.
- You can kill the black knight with acid.
- To free Haldir, kill the vampire with the cross.
- You can kill the witch with water.
- To escape from the cell, give the money to the guard.
- Give honey to the bear.

Tizpan

- When you reach the waterfall type in 'Enter Waterfall' to get the gloves.
- To get through the maze go west, north, north, west.

Welladay

- You'll find the key to unlock the study when you examine the fireplace in the farm.
- Once you've entered the study, type in 'Run Game' to run the game.
- When you've left the town for the countryside examine the bushes to get a card to get a game from the computer shop.

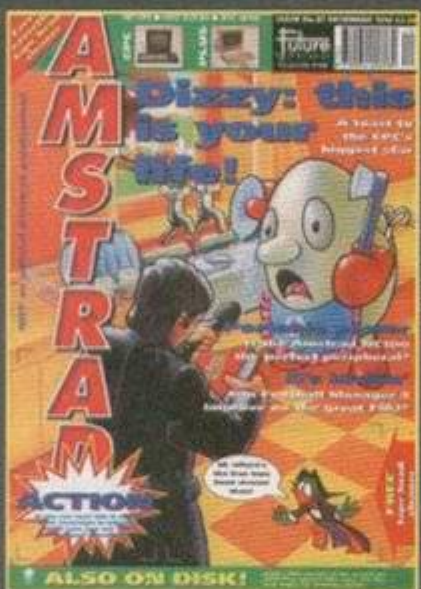
Who's Afraid Of The Balrog?

We've had quite literally 'a few' requests for help with this GAC Competition-winning covertape adventure. Most people seem to be having trouble even getting inside the cave, so here's a few things to get you started.

- Inventory. You have a magazine, a mug of cocoa, and that you're wearing pyjamas.
- Read magazine. Great, isn't it?
- Examine door. Big, isn't it? But can you open it?
- Examine lintel. *(What's a lintel? – Ed)*
- Drop all. You're carrying too much to do anything else.
- Jump lintel. *(Oh, I know what it is, it's okay. – Ed)*
- Examine lintel.
- Down.
- Get all.
- Help.
- Down.
- Examine grass.
- Examine postbox.
- Examine pyjamas.
- Examine pocket.
- Chew gum.
- Get cord.
- Get gum.
- Stick gum to cord.
- Put cord in postbox.
- Pull cord.
- Get letter.
- Examine letter.
- Change address.
- Examine letter.
- Post letter.
- Drop charcoal.
- Wait (x3).
- Up.
- Examine rock.
- Hide.
- Wait.
- Knock twice.
- Wait.
- Enter aperture.
- Now you're inside the cave and you're on your own for a bit.

Back Issues

Sold out! Issues 1-65 ● Still available! Issues 66, 75-86



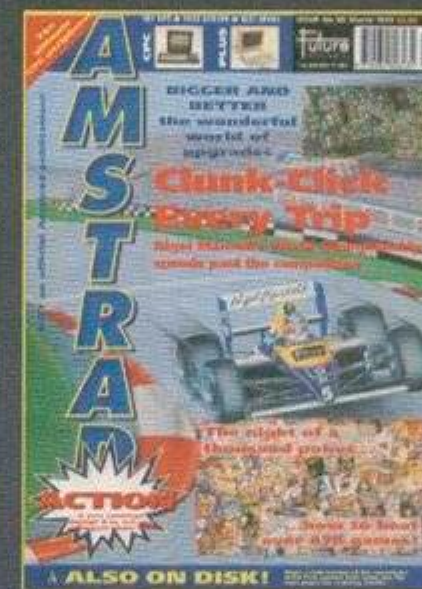
Issue 87: Inside – the complete history of Dizzy and review of the Amstrad NC100 notepad. And! *Football Manager 3* reviewed. Full game of Nexor on the tape.



Issue 88: Two complete games on the tape – *Tankbusters* and *Penguins*. Inside, *Videomaster*, *Robin Hood: Legend Quest* and *Crystal Kingdom Dizzy* reviewed.



Issue 89: Inside – Buyers' Guide to disk drives, a look at CPC-stretching demos and *Crazy Cars 3* reviewed. Plus! *Wriggler* and three great utilities on the covertape.



Issue 90: The world's hugest collection of Multiface pokes (more than 478 of them). On the tape: *Steve Davis Snooker* (full game) and *LARA* (m/code utility).



Issue 91: All the dirt on who's doing what in the CPC world.HackIt black box of tricks reviewed. On the tape: *Tasword* (word processor) and *Colossus Chess 4*.



Issue 92: Just how do those floppy disc things work? Plus a review of the first 3.5 inch A: drive. On the tape: *BooTracker* (music utility), *SYNTAX* and *Balloon Buster*.



Issue 93: 101 interesting things to do with business software. Reviewed: *Super Cauldron*, *Amstrad Pen Pad*. On the tape: *Racing BoxForm*, *Mystical*, *Balrog*.



Issue 94: The very best software and kit for your CPC. *Prehistorik II* reviewed. On the jolly old tape: *Instant Recall* (database), *Contraption*

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A notice to all Amstrad Action readers

WHY IT'S SMARTER TO ORDER YOUR ISSUE

Amstrad Action has been the CPC world's strongest and best magazine for the best part of a decade. It's still going as brilliantly as ever.

However, some of you are finding it increasingly diffiicult to find the magazine. This is inevitable, because there are now more computers and consoles, and therefore more computer and console magazines filling up newsagents' shelves.

The solution is very simple. Just ask your local friendly newsagent to save your copy every month. They'll be more than happy to oblige. That way, you're guaranteed your monthly fix of hot CPC news and information, without having to hunt around for your copy.

You'll find a coupon in every issue of Amstrad Action, but you only need to fill one in, and hand it over to your newsagent.

We are commited to keeping the CPC scene as vibrant as ever. But that depends on a strong magazine like Amstrad Action. It's all down to all of us who know that the CPC is a wonderful machine.

Make sure you aren't missing out on the CPC. Things are happening.

All the best,

Colin Campbell
Publisher

MAG*SAVE

See page 8 for the coupon.

Public Image

Another month, another bunch of free software. We asked ace reporter and self-confessed Yorkshireman, Tim Blackbond to check it out.

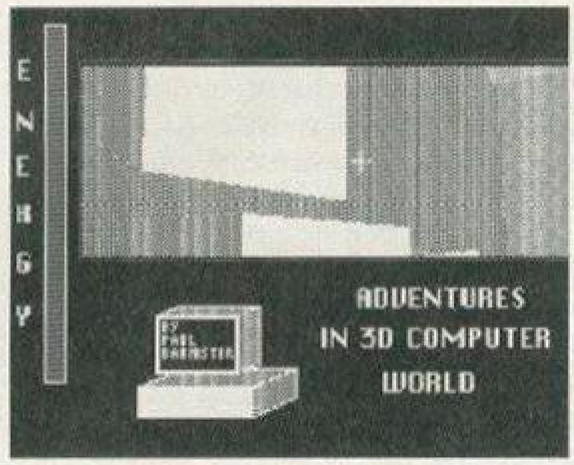
RUMBLINGS

Eh-up, by 'eck, and sithee. Dust tha' know Ah come from Dewsbury? Eee, it's grand there. Aye. 'Appen. *(I ought to point out at this juncture that Tim didn't actually write that. But I thought it would add a bit of character to the whole thing – give you some idea of who the chap is that writes this stuff. Anyway, carry on, Tim. – Ed)*

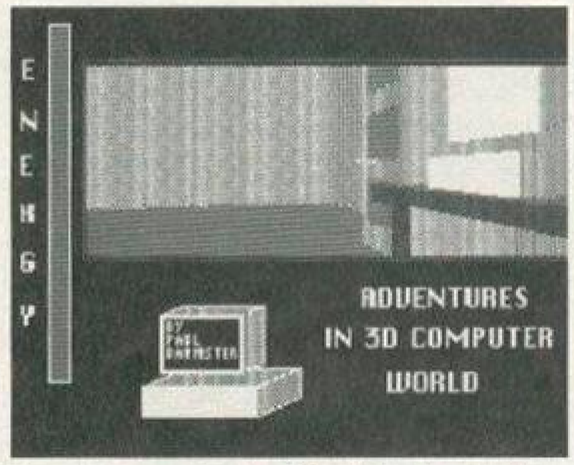
After the massive surge of news that hit the PD scene last month, everything seems to have gone quiet again. There are a few stories that might raise an eyebrow though...

The games fanzine, ALIVE AND KICKING, has gone up 15p in price, making it a whopping £1.35. With an increase in pages and quality, you can still be sure that your getting your money's worth in games information. And that address in full: **3 Causeway House, Kelstedge, Ashover, Chesterfield, S45 ODW.**

Also on the magazines front, Steve Hayward has passed the editorship of CPC User (The United Amstrad User Group magazine) on to a figure from its past, John Packman. Those who remember Mr Packman from when he was last the editor can welcome him back with a smile and cheer, those who don't had better formally introduce themselves. That's about it, really.



Excuse me, sir, I wonder if you would be kind enough to direct me to the chip shop?



Yes, of course. Go past the blob, turn right at the blob and it's the third blob on the left.

SOFTWARE REVIEWS

DosCopy

By Andreas Stroiczek
Available from Presto PD and Sheepsoft

Wouldn't it be great to have a program that would convert your CPC files to MS-DOS format so that

KIRK EDITOR

By Alan Sharp
G.D. PD Utilities 11

The Public Domain world has more than its fair share of word-processing packages. All of which are either CP/M (tedious) or BASIC text-editors (pointless). It's good to see a program that somebody would actually use on a regular basis.

The *Kirk Editor* has everything you would expect to find on a basic word-processor: Documents can be re-formatted into user-defined margins (with a capability of up to 250 columns of text), single accidentally deleted lines can be undeleted, the number of words in a document can be counted (useful for that one-thousand word report on 'The Firth of Forth in The Eighteenth Century') and blocks of text can be moved, copied and deleted.

Not only are the usual features available, but there's a few others that you don't find in most word processors. For example, a built-in calculator window can be called up at the press of a button. Not only that, but sixteen lines of text can be transferred to two separate notepads. These can either be used as a temporary buffer for copying sections of the document or to jot important notes in that are needed as reference material while typing your report/novel/letter. In fact, in the on-screen help bar that takes up the bottom six lines of the screen there are no less than twenty-nine options. Should you memorise this library of commands, the help bar can be removed, giving you more space with which to edit documents.

By just pressing Control and Return simultaneously you are presented with the menus to print your document, save or load documents and several utilities (even a built-in disc formatter). Files can be printed with embedded control codes as a straight page-by-page layout or Filofax sheets to be cut out and thrown into your personal organiser. You need never miss another appointment again.

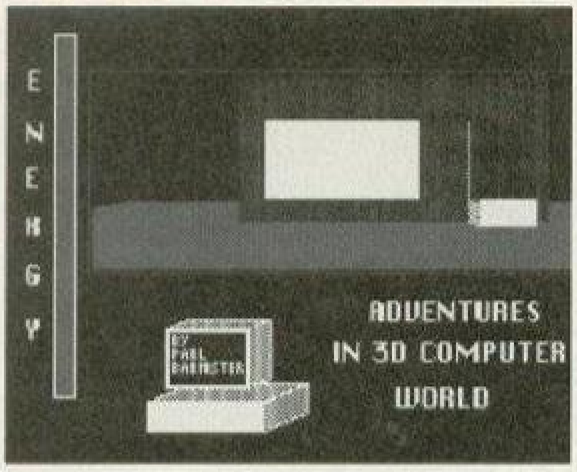
Finally, ten macros can be set up to take on several commands in one short keypress (setting up a page with the address and margins for a letter is one suggestion for this option).



Oh no, it's Attack Of The Art Editors With Slanty Screen Grabs. Run for your lives!

The *Kirk Editor* is fast and easy to use – two things that are so important for a word processor. Don't expect it to go as far as whipping the behind of *Protext* or *Brunword*. For the person who doesn't write much, or just the plain cheapskate, The *Kirk Editor* is the best public domain AMSDOS word-processor you'll find. Maybe further versions might see a more-polished look to the menus.

82%



Ah, yes, thank you. I was looking over there by the blobs, no wonder I couldn't see it.

you wouldn't have to stay until nine o'clock every night at college doing work? Well, there has been this type of program for a few years now (check Moonstone's CP/M *2in1*), but *DosCopy* marks the first one to be flogged for the tiny prices of public domain.

Apart from Quit and About, the main menu offers three (useful) options, these being: Setup, Copy and Format. Copy and Format do just what the option suggests (discs can even be formatted to MS-DOS) while Setup allows you to change the defaults such as 40/80 track drive and BINary/ASCII transfer.

Although not being as fast at transferring the data as *2in1*, it's a lot easier to use (the whole program sits in the memory at once, so there's no constant disc-accessing) and you don't need to boot CP/M before loading it. There is some bad news – you'll need a 3.5" second drive, but blame the PC manufacturers for not fitting a 3" drive on their so-called top-of-the-range machines for that...

85%

WORMSLICKERS

By Andreas Stroiczek
Available from PD FUN (Games 22)

Adding his say to the current European snake-game competitions, Mr. Stroiczek has managed to give us probably the first four player snake-'em-up (now, I'll just wait for the millions of letters proving me wrong).

Each player has three lives and starts from a separate part of the maze. The idea is to fly around avoiding walls, forcing your best friends to die and pick up a few of the edible goodies on the way.

One of the best points of this game is that running into a wall or another snake doesn't kill you, you just get smaller. If you manage to turn away from the wall before you disappear and lose a life, you can carry on – but this is where we encounter a problem. The game starts off fast and then gets faster.

If you can stay alive for more than fifteen seconds, you'll be at the pinnacle of human reflexes. In short, it's difficult!

Even though you don't have to have four people to play it – you can whizz around the screen on your own if you like – the game is marred by the immense speed and ease of death. A nice game, though, but the concept wears quickly.

70%

ADVENTURES IN 3D COMPUTER WORLD

By Paul Bannister
Available From PD Fun (Games 22)

Exclusively from PD Fun, the very first game to be released into the public domain using the infamous *3D Construction Kit*. For those who didn't fork out £25 for the 'Build your own Virtual Reality' package, you won't know how difficult it is to use. Not so much difficult, more of a sort of slo-o-o-ow. You need the patience of a saint to use it. Now, we can see what can be achieved with a little imagination and a lot of time...

The idea of the game is something we don't get to know. Perhaps Simon (as in Walker) also rules out documentation files with his '100% Fun' policy. A silly idea. The adventure starts off outside a building of some sort, rather like the demo that comes with the original game. Shooting at the door opens your way inside only to find a computer, which is in need of a disc (Tip: It's in the filing cabinet). Along your way, solving puzzle you'll encounter one of those walkers from Star Wars, a treasure chest, one of those irritating 'choose the door to go through' bits and several trap doors.

Screen design could be tarted up a bit, to make it look a slight more attractive and to help take your mind off the fact that the CPC isn't very good at Virtual Reality. You can wander around and have fun in your own special world, but it's all too pointless without knowing what exactly you have to do...

56%

DISC'O'MAGIC

By Joker Of BENG!
Available from Amsof PD

The guys at BENG! seem to building a name up for themselves as people who were put on the planet solely to write disc utilities. We've already seen Crown's *Cruch*, *Turbo Imploder* and *Crime*, so how does Joker compare?

The opening screen contains the usual incomprehensible demo-coder waffle, the greetings to fellow 'freeex' (and while we're on the subject, just what is a 'freeek'? Answers on a postcard, please). Pressing space takes you to the main screen, featuring a directory window on the left and a wealth of options sitting on the other 75% of the screen area.

The options include: Copy File/Disc, Format, Read Only, Hide File, Type (lists file to screen, regardless of whether it's an ASCII, binary or whatever), Delete File and many, many more. In fact, everything you might ever need to keep those messy discs in order is crammed into one program. Everything, that is, except for compatibility with the formats for high-capacity B: drive discs (ROMDOS in particular).

90%

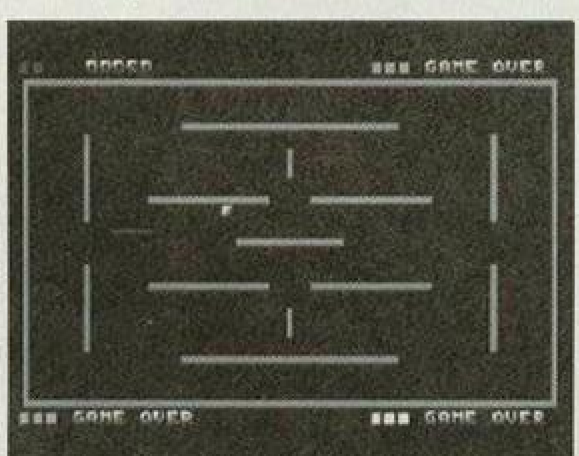
GPAINT

"*GPaint*. Wasn't the art program that was given away on the ***AA*** covertape?" said the collective readership of ***Amstrad Action*** with one voice. Well, that is, in essence, correct – the *GPaint* on the cover cassette was the old version. Old, scruffy and suffering from senility.

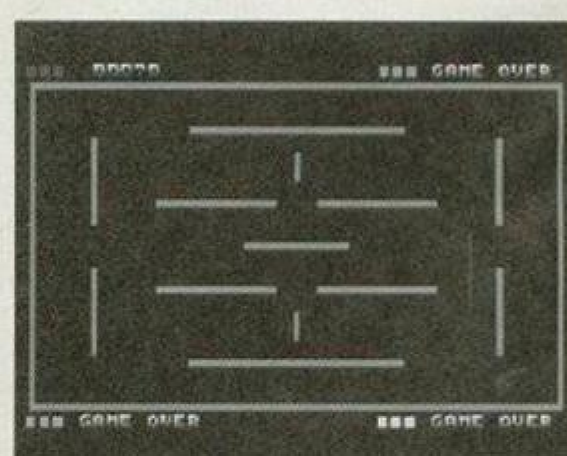
As well as having all the features of its predecessor, *GPaint* has also been blessed with a smartened up menu screen, built-in pattern editor, several line/brush thicknesses, faster execution of the block copy/re-scale operation, and... tons more, frankly.

The fact that it looks so good makes the next bit of news even more sad – it's all in German. The main menu comprises of easy-to-understand icons, but the sub-menus are going to be a bit of a problem if you can't get to grips with the language. We'll keep you updated as to when it is translated, until then you can either get it from Presto PD or simply drool over the screenshots for a while... ●

So that's it for another month. If you want to write to me with news, views, questions or answers then the address, as always, is:
Amstrad Action
Public Image
30 Monmouth Street
BATH BA1 2BW



Apparently there wasn't any work done at all in the AA office when this game arrived.



It's such a classic concept that even dyed-in-the-wool console users came in to have a go.

For Sale

AMSTRAD CPC 464 green monitor, keyboard, 21 games plus 8 Amstrad Action tapes and magazines complete with manual excellent condition only £80. **Tel (091) 4142555**

AMSTRAD 464 green monitor GT65, 50 games, manual, dust covers. Good condition £75 ono. Also MP2 modulator aerial socket type £20. **Tel Fred 081-648 2261**

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SmArt+

We thought Leonardo da Forrester ought to take a look at this new art package for the Plus machines.

I've never really wanted to be an artist (which is why, most probably, I'm not). An art critic seems much more fun. Slagging four years of someone's work and making various references to potato shapes whilst watching someone's face crumple as their life falls down around their ears is much more my style. Besides, I don't look good in a nightie and floppy hat (despite the vicious rumours).

Up until now, people who wanted the create nice artwork on their CPC have had to use the *OCP Art Studio*. This had one main disadvantage – it couldn't take advantage of the extra capabilities of the Plus range.

All that looks set to change though, as Rob Buckley's new package, *SmArt+*, was written especially to use these extra abilities of the new (well, newer, anyway) range of CPC-type machine things.

For the purposes of this review, we'll be comparing *SmArt+* with the current hero of the CPC art world (what, like this is a culture thang?), *Advanced OCP Art Studio*. So here we go.

Icon see for miles

The first thing you'll notice when you load up *SmArt+* is that the layout is completely different from *OCP*'s top menu bar system. Instead, there are loads of icons at the bottom of the screen to do with what you will.

The features are fairly standard:

- Spray can – a speckled effect, which grows thicker the longer you spray. A bit like a real spray can really.
- Fill – for filling large areas by flooding them with a colour or pattern of your choice.
- Boxes – drawing boxes. *(Very helpful description. Thanks. – Ed)*
- Ellipses – drawing ellipses. *(Get out of my sight, you lousy excuse for a reviewer. – Ed)*
- Flips – for flipping images either horizontally or vertically.
- Filing – saving or loading of screens, or boxes. There seems to be a bit of a lack of catalogue option, but hey, you can't have everything, can you?

So how easy is it to use? Well, to be honest, there's not much to choose between either the *OCP* package and *SmArt+* in all normal artwork stakes, as most of the standard arty features have been included. On top of this, *SmArt+* can handle more that one screen at a time, allowing you to cut and paste between pictures very easily (now if only someone would do that with a CPC word processor).

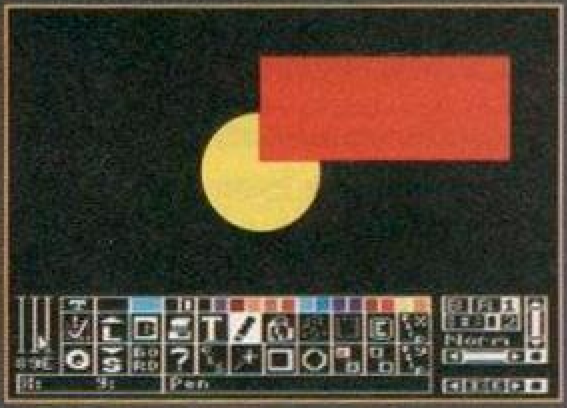
SmArt+ may let you down in the 'reams of extra but wholly useless features' stakes, though. You see, *OCP* offers facilities for protecting inks, stretching boxes, rotating palettes, switching modes, grid locking, and so much more. But what do they do anyway? *SmArt+* lacks these features, but if you ever find a need for them you're probably just an alien, and I refuse to consider aliens when reviewing software.

So why *SmArt+*? Well, Plus owners will probably be annoyed that the extra capabilities of their machines aren't catered for by a great majority of CPC software. Where, then, does *SmArt+* come into action? Probably the biggest advantage is the huge amount of new colours you can access for your picture. Smoothly blended colours actually make up for the rather chunky pixels of the CPC in a lot of cases.

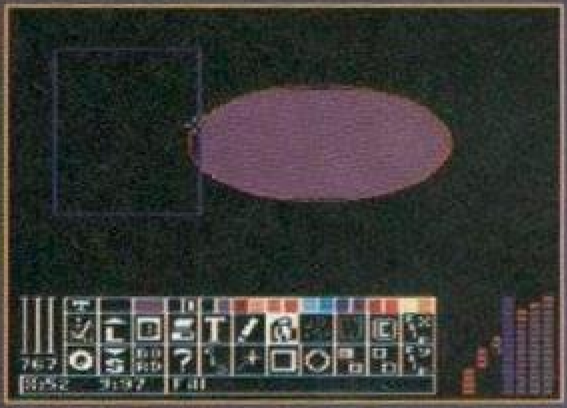
Point two is overscan. Fab stuff is overscan, as it lets you display your picture until it actually drops off the screen, instead of having a square border on a minute rectangle that's laughingly called a full screen. But tell me, world, what use is an overscan picture, when 99% of the CPC owning population wouldn't have the first clue how to display it outside the cosy environment of the art package? Well, with a bit of luck, by the time this review hits the streets, Radical Software will have added a fab and useful little display routine, letting us all enjoy overscan pictures in our own programs.

Let's cut the tosh here – if you've already got *OCP Art Studio*, you probably won't be in the market for another art package. If you've got a normal CPC, it won't work anyway (this isn't a fault – it's not supposed to).

But if you really want to see what your Plus can do, run out and get *SmArt+*, as it's got most of the stuff you'll need, albeit with a little less grace. ●



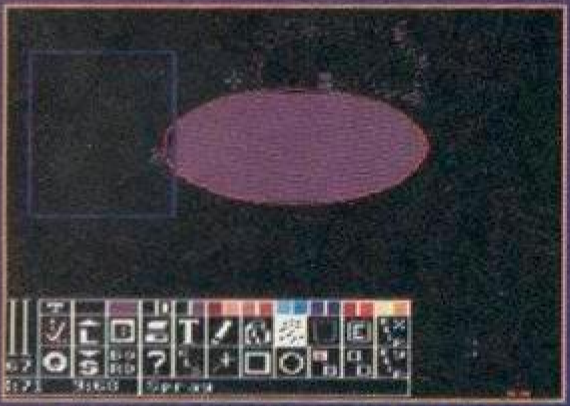
I call this one 'Sunrise on Planet Rectangle'. The tool palette is pretty comprehensive.



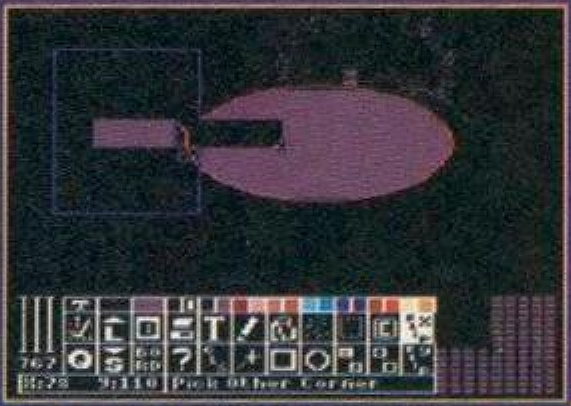
As you can see, SmArt+ has a zoom mode. Very useful for editing individual pixels.

Contact

If you want to get your sweaty mitts on *SmArt+*, send £15 to:
Radical Software
57 Lebrun Square
Kidbrooke
London SE3 9NS



This is me, as a young boy, in the Sahara. You can just see Cairo in the far distance.



This was my guide, Rodriguez, tucking the camels in for the night. (You're fired. – Ed)

Type-ins

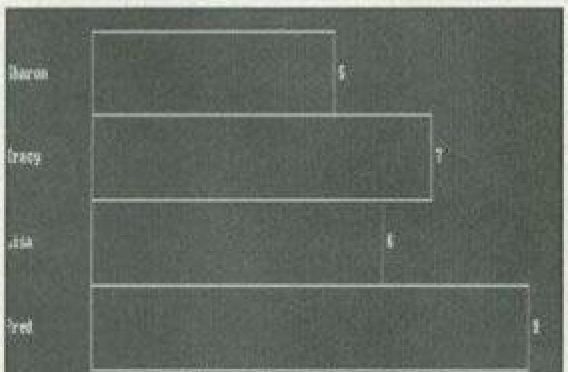
No messing about, now. These are the type ins. You write 'em, we admire 'em, we print 'em, you type 'em in. It's simple.

Maths Stuff

First up this month, we'll be doing maths programs. This is the only time between now and apocalypse, however, that we'll be covering anything vaguely difficult. All three programs come from one **Philip McCann**.

The first one is to draw bar graphs:

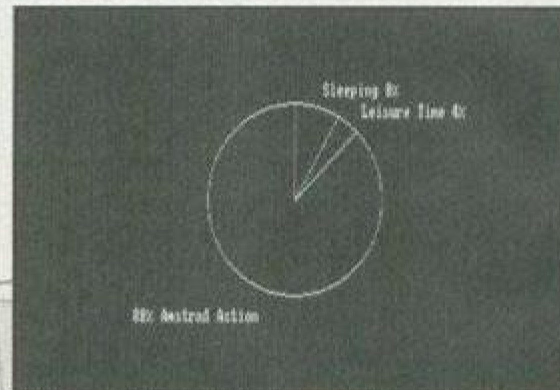
```
DAPM 10·'Bar·Graph
FAPF 20·'Philip·McCann
CAEJ 30·BORDER·3
FAHM 40·MODE·2:INK·0,3:INK·1,26
BAHG 50·CLS
FAAI 60·DIM·x$(20),freq$(20)
DAJK 70·n=0:high=0
DALK 80·FOR·i=1·TO·20
GAHO 90··INPUT·"option·";x$(i)
HAGF 100··IF·x$(i)=""·THEN·140·ELSE·110
HALF 110··INPUT·"freq·";freq$(i)
OAMC 120··IF·VAL(freq$(i))>high·THEN·high=VAL
    (freq$(i))
CADM 130··GOTO·150
FAEE 140··count=i-1:i=20
CAOH 150·NEXT·i
PAOC 160·REM·find·vertical·and·horizontal·sca
    les
GAGG 170·yscale=350/count
FAKN 180·xscale=500/high
BAMJ 190·CLS
DANC 200·MOVE·100,25
DANF 210·DRAW·100,375
FAOJ 220·FOR·i=1·TO·count
HAIH 230··MOVE·100,375-(i-1)*yscale
OAFA 240··DRAW·100+VAL(freq$(i))*xscale,375-(
    i-1)*yscale
NAHF 250··DRAW·100+VAL(freq$(i))*xscale,375-i
    *yscale
GADM 260··DRAW·100,375-i*yscale
CABI 270·NEXT·i
BAGJ 280·TAG
FAFK 290·FOR·i=1·TO·count
KAII 300··MOVE·1,375-(i-1)*yscale-yscale/2+8
EACB 310··PRINT·x$(i);
BBEI 320··MOVE·105+VAL(freq$(i))*xscale,375-(
    i-1)*yscale-yscale/2+8
FAKE 330··PRINT·freq$(i);
CAPH 340·NEXT·i
CAPG 350·TAGOFF
FAPN 360·WHILE·INKEY$="":WEND
OAFO 370·LOCATE·2,25:PRINT·"save·screen·-·y/n
    ";:INPUT·scr$
JALL 380·IF·UPPER$(scr$)="Y"·THEN·390·ELSE·42
    0
MAFK 390·LOCATE·20,25:PRINT·"save·as·...·";:I
    NPUT·fil$
HADI 400·LOCATE·1,25:PRINT·SPACE$(38)
GAMC 410·SAVE·fil$,b,&C000,&4000
KAPC 420·LOCATE·2,25:PRINT·"any·key··········
    ·······"
DAFC 430·i$=INKEY$
EALH 440·IF·i$=""·THEN·430
DABE 450·MODE·2:END
```



As my maths teacher always used to say, 'Nine what? Nine cabbages?' I hated school.

The second, pie charts:

```
DAIN 10·'Pie·Chart
FAPF 20·'Philip·McCann
CAEJ 30·BORDER·3
FAHM 40·MODE·2:INK·0,3:INK·1,26
BAFF 50·DEG
CBHI 60·DIM·x$(50),freq(50),angle(50),total(5
    0),percent(50),labpos(50)
CALE 70·tot=0
DAOK 80·FOR·i=1·TO·50
GAHM 90··INPUT·"option";x$(i)
HAGF 100··IF·x$(i)=""·THEN·140·ELSE·110
HAHB 110··INPUT·"freq";freq(i)
GABF 120··tot=tot+freq(i)
CADM 130··GOTO·150
EAJO 140··count=i:i=50
CAOH 150·NEXT·i
BAJJ 160·CLS
FANG 170·scale=(360/tot)
DALM 180·total(0)=0
FAEK 190·FOR·i=1·TO·count
IAKG 200··angle(i)=freq(i)*scale
KAGB 210··total(i)=total(i-1)+angle(i)
KAHA 220··percent(i)=(freq(i)*(100/tot))
LAHC 230··labpos(i)=(angle(i)/2)+total(i-1)
CAOH 240·NEXT·i
DACP 250·ORIGIN·320,200
JALH 260·REM·outer·circle:move·0,100
EACB 270·FOR·i=0·TO·360
HANA 280··DRAW·100*SIN(i),100*COS(i)
CADI 290·NEXT·i
GACI 300·REM·sector·lines
```



This is a pie chart showing the approximate proportion of our time we spend on AA.

```
EANA 310·FOR·i=0·TO·360
CAIL 320··MOVE·0,0
GAPG 330··FOR·j=0·TO·(count-1)
KADL 340···IF·i=CINT(total(j))·THEN·350·ELSE·
    360
HALC 350···DRAW·100*SIN(i),100*COS(i)
CACK 360··NEXT·j
CACI 370·NEXT·i
GACO 380·REM·label·sectors
BAIJ 390·TAG
EAOA 400·FOR·i=1·TO·360
CAIL 410··MOVE·0,0
GAPG 420··FOR·j=0·TO·(count-1)
LACB 430···IF·i=CINT(labpos(j))·THEN·440·ELSE
    ·470
HAPC 440···IF·i>=180·THEN·450·ELSE·460
IBHM 450···MOVE·125*SIN(i)-8*(LEN(x$(j))+4),1
    25*COS(i):PRINT·STR$(CINT(percent(j)));"
    %";"·";x$(j);:GOTO·470
CBFD 460···MOVE·125*SIN(i),125*COS(i):PRINT·x
    $(j);STR$(CINT(percent(j)));"%";
CAEK 470··NEXT·j
CAEI 480·NEXT·i
CAEH 490·TAGOFF
OAAO 500·LOCATE·2,25:PRINT·"save·screen·-·y/n
    ";:INPUT·scr$
JAFL 510·IF·UPPER$(scr$)="Y"·THEN·520·ELSE·55
    0
MAAK 520·LOCATE·20,25:PRINT·"save·as·...·";:I
    NPUT·fil$
HAHI 530·LOCATE·1,25:PRINT·SPACE$(38)
HAFL 540·SAVE·fil$+".SCR",b,&C000,&4000
KADD 550·LOCATE·2,25:PRINT·"any·key··········
    ······"
DAJC 560·i$=INKEY$
EADI 570·IF·i$=""·THEN·560
DAFE 580·MODE·2:END
```

And the third, scatter graphs:

```
FAND 10·'Scatterplot
FAPF 20·'Philip·McCann
IABB 30·MODE·2:INK·0,3:INK·1,26:BORDER·3
EAAG 50·DIM·x(100),y(100)
DBAL 60·n=0:xx=0:yy=0:xy=0:sx=0:sy=0:xhigh=0:
    yhigh=0:xlow=0:ylow=0
```

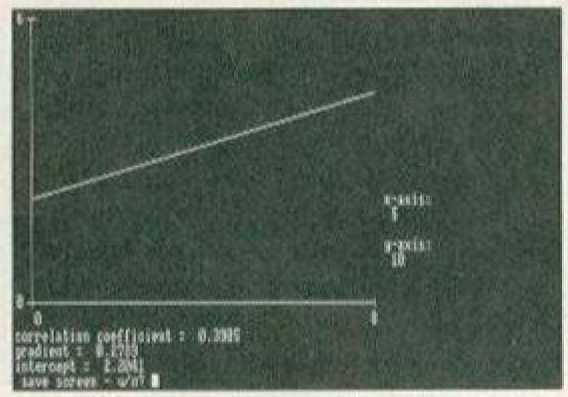
```
PAME 70·INPUT·"quantity·and·units·on·y-axis·"
     ;yinf$
PAME 80·INPUT·"quantity·and·units·on·x-axis·"
     ;xinf$
PACJ 90·PRINT·"enter·coords·(separate·with·a·
     comma)"
CAGC 100·n=n+1
EAMP 110·INPUT·x(n),y(n)
FACL 120·IF·x(n)<-999·THEN·240
EAJC 130·sx=sx+x(n)
EANC 140·sy=sy+y(n)
FAGJ 150·xx=xx+x(n)*x(n)
FANJ 160·yy=yy+y(n)*y(n)
FALJ 170·xy=xy+x(n)*y(n)
JAAP 180·IF·x(n)>xhigh·THEN·xhigh=x(n)
JAFP 190·IF·y(n)>yhigh·THEN·yhigh=y(n)
JALE 200·IF·x(n)<xlow·THEN·xlow=x(n)
JAAF 210·IF·y(n)<ylow·THEN·ylow=y(n)
CAOJ 220·GOTO·100
GAOE 230·REM·find·a,b·and·r
CANC 240·n=n-1
JADJ 250·b=(n*xy-sx*sy)/(n*xx-sx*sx)
EAEM 260·a=(sy-b*sx)/n
GAPG 270·rnum=n*xy-sx*sy
MANP 280·rdenom=SQR((n*xx-sx*sx)*(n*yy-sy*sy)
     )
FABO 290·r=rnum/rdenom
JALN 310·REM·find·a·suitable·scale
IAFJ 320·xscale=400/(xhigh-xlow)
IAIJ 330·yscale=300/(yhigh-ylow)
CBCC 340·ORIGIN·20+ABS(CINT(xlow*xscale)),90+
     ABS(CINT(ylow*yscale))
BAKJ 350·CLS
FAMD 360·REM·draw·axes
IACO 370·MOVE·-5,CINT(yhigh*yscale)
IANK 380·DRAW·5,CINT(yhigh*yscale)
IAGJ 390·MOVE·-5,CINT(ylow*yscale)
IAIF 400·DRAW·5,CINT(ylow*yscale)
IALN 410·MOVE·CINT(xhigh*xscale),-5
IACK 420·DRAW·CINT(xhigh*xscale),5
IAPI 430·MOVE·CINT(xlow*xscale),-5
IAKF 440·DRAW·CINT(xlow*xscale),5
IANK 450·MOVE·CINT(xhigh*xscale),0
IAHF 460·DRAW·CINT(xlow*xscale),0
IABL 470·MOVE·0,CINT(yhigh*yscale)
IALF 480·DRAW·0,CINT(ylow*yscale)
BAJJ 490·TAG
MALJ 500·MOVE·xlow*xscale-4,-10
FAGM 510·PRINT·STR$(xlow);
IAKB 520·MOVE·xhigh*xscale-12,-10
GAGC 530·PRINT·STR$(xhigh);
HAHP 540·MOVE·-25,yhigh*yscale+8
GAJC 550·PRINT·STR$(yhigh);
HALK 560·MOVE·-25,ylow*yscale+8
FANN 570·PRINT·STR$(ylow);
CAEH 580·TAGOFF
DANO 590·FOR·i=1·TO·n
NAJB 600··PLOT·CINT(x(i)*xscale),CINT(y(i)*ys
     cale)
CAPH 610·NEXT·i
IAJE 620·LOCATE·55,13:PRINT·"x-axis:"
HAME 630·LOCATE·56,14:PRINT·xinf$
IAPE 640·LOCATE·55,16:PRINT·"y-axis:"
HADF 650·LOCATE·56,17:PRINT·yinf$
GAJJ 660·REM·best·fit·line
PAAC 670·LOCATE·2,25:PRINT·"best·fit·line·y/n
     ";:INPUT·lin$
HAIP 680·IF·UPPER$(lin$)<>"Y"·THEN·760
IACE 690·LOCATE·2,25:PRINT·"··················
     ···";
BBEO 700·MOVE·CINT(xlow*xscale),CINT(b*xlow*y
     scale+a*yscale)
CBIH 710·DRAW·CINT(xhigh*xscale),CINT(b*xhigh
     *yscale+a*yscale)
JAEI 720·LOCATE·1,23:PRINT·"gradient·=·";
FACA 730·PRINT·ROUND(b,4)
KAHA 740·LOCATE·1,24:PRINT·"intercept·=·";
FADA 750·PRINT·ROUND(a,4)
PAKH 760·LOCATE·1,22:PRINT·"correlation·coeff
     icient·=·";
FAGB 770·PRINT·ROUND(r,4)
OAKO 780·LOCATE·2,25:PRINT·"save·screen·-·y/n
     ";:INPUT·scr$
JABM 790·IF·UPPER$(scr$)="Y"·THEN·800·ELSE·83
     0
MACK 800·LOCATE·21,25:PRINT·"save·as·...·";:I
     NPUT·fil$
HAEI 810·LOCATE·1,25:PRINT·SPACE$(70)
HAGL 820·SAVE·fil$+".SCR",b,&C000,&4000
KAED 830·LOCATE·2,25:PRINT·"any·key··········
     ······"
DAKC 840·i$=INKEY$
EAFI 850·IF·i$=""·THEN·840
DAGE 860·MODE·2:END
```

All three are operated in a pretty straightforward manner, by entering data at the beginning of the program, just hitting RETURN to draw the graph, and having the option to save the screen out at the end.

Blob Dodger

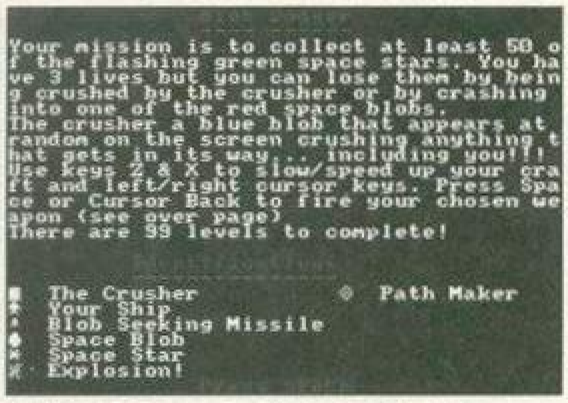
Oh no! It's attack of the killer length type ins again! Full instructions (along with credits) are included in the program. Enjoy the game and suffer the typing. Oh, and it wins the £30 prize.

```
HAAM 10·'Blob·Dodger·(6128·only)
HAFJ 20·'By·Andrew·Ratcliffe
CAPJ 30·'Aged·13
FAPN 40·'17th·January·1993
GAMH 50·'(C)1992·Ratsoft·ltd
AANK 60·'
FEJD 70·'If··you·wish·to·include·this·program
     in·any·PD·libraries,·then·you·must·write
     to·me·at:·ANDREW·RATCLIFFE,·37,·PARKLAND
     GROVE,··ASHFORD,·MIDDLESEX,·TW15·2JB··an
     get··my·permission··before·distributing·
     it.·Please·S.A.E.
OAPL 80·'Also·include·the·NAME·of·your·PD·lib
     rary.
AAAL 90·'
NAKP 100·'This·version·adapted·for·AMSTRAD·AC
     TION
HADN 110·'DO·NOT·ALTER·THIS·PROGRAM.
NBOE 120·'P.S.·Have·you·found·the·cheat·yet??
     ?!!!
AALN 130·'
NCMN 140·IF·HIMEM<41843·THEN·CLS:BORDER·26:SO
     UND·1,90,100:SOUND·4,180,100:SOUND·2,45,
     100:FOR·t=1·TO·400:NEXT:BORDER·1:MODE·1:
     INK·0,1:INK·1,24:BORDER·1:PEN·1:PRINT"··
     ·········*** MEMORY·ERROR·***"·ELSE·210
NAEO 150·PRINT:PRINT"*·HIMEM·MUST·BE·AT-LEAST
     ·41843·TO·LOAD·*"
JAKB 160·PRINT"··········***·HIMEM·IS";HIMEM;"
     ***"
CAFE 170·PRINT
LAPO 180·PRINT"·***·PLEASE·RESET·COMPUTER·&·R
     ELOAD·***"
EAHA 190·POKE·&BDEE,&C3
CANJ 200·GOTO·200
EADN 210·SYMBOL·AFTER·143
HAFL 220·SYMBOL·203,28,34,85,73,85,34,28,0
JAHE 230·SYMBOL·143,170,127,254,127,254,127,2
     54,85
```



Look, this is a scatter graph, can't you see? And it's got loads of useful info on it too.





We like programs with instructions. It doesn't take much effort and it's so helpful.

```
HACB 240·SYMBOL·145,8,28,28,28,42,0,0,0
HAHL 250·SYMBOL·229,24,60,126,255,24,60,66
IAFL 260·SYMBOL·233,28,62,126,255,255,127,62,28
IAGL 270·SYMBOL·238,69,21,106,150,189,84,210,37
LDLF 280·ENV·1,8,-1,4:SPEED·INK·30,30:TAGOFF:MODE·1:BORDER·0:INK·1,2:INK·2,6:INK·3,26:INK·4,18:INK·5,24:INK·6,15:INK·7,20:INK·8,0,16:INK·9,17:INK·10,18,0:INK·11,0,20:INK·12,13:INK·13,0:INK·14,14:INK·15,0,5:INK·0,0:l=1:s=45:i=1:h=0.1:li=3:j=1:sp=0:cheat$="OFF"
OAJG 290·levinc$="NO":PEN·1:LOCATE·15,1:jk$="Blob·Dodger"
GACB 300·FOR·oo=1·TO·LEN(jk$)
ABKM 310·SOUND·1,0,20,15,1,,31:PRINT·MID$(jk$,oo,1);:FOR·t=10·TO·300:NEXT·t
CACP 320·NEXT·oo
NAJJ 330·FOR·t=10·TO·300:NEXT:PEN·2:LOCATE·15,2:jk$="-----------"
GAGB 340·FOR·oo=1·TO·LEN(jk$)
ABEH 350·SOUND·4,0,5,15,1,,20:PRINT·MID$(jk$,oo,1);:FOR·t=10·TO·50:NEXT·t
CAGP 360·NEXT·oo
BAAP 370·PEN·3
GELM 380·PRINT"Your·mission·is·to·collect·at·least·50·of·the·flashing·green·space·stars.·You·have·3·lives·but·you·can·lose·them·by·being·crushed·by·the·crusher·or·by·crashing·into·one·of·the·red·space·blobs."
MCJO 390·PRINT"The·crusher·a·blue·blob·that·appears·at·random·on·the·screen·crushing·anything·that·gets·in·its·way...·including·you!!!"
DDHP 400·PRINT"Use·keys·Z·&·X·to·slow/speed·up·your·craft·and·left/right·cursor·keys.·Press·Space·or·Cursor·Back·to·fire·your·chosen·weapon·(see·over·page)"
NAAL 410·PRINT"There·are·99·levels·to·complete!"
NACI 420·PRINT:PEN·1:PRINT·TAB(10)"Identifications"
IADE 430·PEN·2:PRINT·TAB(10)"---------------"
BAOO 440·PEN·3
ABKO 450·PRINT·CHR$(143);"··The·Crusher··········";CHR$(203);"··Path·Maker"
IAIH 460·PRINT·CHR$(229);"··Your·Ship"
MAOG 470·PRINT·CHR$(145);"··Blob·Seeking·Missile"
IANJ 480·PRINT·CHR$(233);"··Space·Blob"
GAOL 490·PRINT·"*··Space·Star"
IACP 500·PRINT·CHR$(238);"··Explosion!"
JAMD 510·PEN·1:PRINT·TAB(15)"Press·SPACE"
GAHB 520·IF·INKEY(47)=0·THEN·540
CAIK 530·GOTO·520
OAHB 540·CLS:PEN·1:PRINT·TAB(11)"Collectable·Bonuses"
IAOO 550·PEN·2:PRINT·TAB(11)"-------------------"
BABP 560·PEN·3
EDJA 570·PRINT"Collecting·a·flashing·PINK·SHIP·will·give·you·an·extra·life.·Collecting·a·flashing·BLUE·CIRCLED·CROSS·will·clear·a·path·directly·in·front·of·you.
CAKE 580·PRINT
EDJL 590·PRINT"Collecting·a·flashing·PALE·BLUE·EXPLOSION·will·give·you·a·bonus·BLASTA·BOMB/BLOB·SEEKING·MISSILE·depending·on·which·weapon·you·have·selected·(see·below).
CADE 600·PRINT
FFBB 610·PRINT"Blastabombs·destroy·whats·in·front·of·them.·Use·these·at·very·close·range.·Blob·Seeking·Missiles·can·be·guided·to·destroy·a·space·blob·that·is·in·front·of·it·using·LEFT/RIGHT·cursor·keys.·Can·be·used·close·or·far·away·from·the·target.
IBDL 620·PRINT:PEN·1:PRINT"Please·Select·Weapon:-":PEN·2:PRINT:PRINT"·········1.·Blastabombs"
NAHE 630·PEN·2:PRINT"·········2.·Blob·Seeking·Missiles"
JANG 640·IF·INKEY(64)=0·THEN·wep=1:GOTO·670
JANG 650·IF·INKEY(65)=0·THEN·wep=2:GOTO·670
CAPK 660·GOTO·640
LAHH 670·PRINT:PEN·3:PRINT·TAB(14)"SPACE·To·Play"
LADD 680·IF·INKEY(47)=0·THEN·MODE·0:GOTO·690·ELSE·680
HDIK 690·IF·l=100·THEN·1040·ELSE·LOCATE·1,1:PEN·5:PRINT"L";:PEN·4:PRINT·l:LOCATE·6,1:PEN·7:PRINT·CHR$(229);:PEN·9:PRINT·li:LOCATE·11,1:PEN·14:PRINT·CHR$(238);:PEN·6:PRINT·j:LOCATE·16,1:PEN·4:PRINT"*";:PEN·5:PRINT·sp:FOR·u=1·TO·700
IAEK 700·x=CINT(RND*640):y=CINT(RND*400)
DADJ 710·PLOT·x,y,3
BAIP 720·NEXT
DAKP 730·FOR·u=1·TO·s
BBPB 740·x=CINT(RND*20):y=CINT(RND*20):IF·y<2·THEN·740·ELSE·IF·x=0·THEN·740
IABP 750·LOCATE·x,y:PEN·2:PRINT·CHR$(233)
BAMP 760·NEXT
JAEP 770·e=CINT(RND*4):IF·e=1·THEN·780·ELSE·790
GBND 780·q=CINT(RND*600):w=CINT(RND*350):IF·w<100·THEN·780·ELSE·TAG:MOVE·q,w,8:PRINT·CHR$(229);
BCME 790·r=CINT(RND*3):IF·r=2·THEN·x=CINT(RND*600):y=CINT(RND*350):IF·y>330·OR·y<100·THEN·800·ELSE·TAG:MOVE·x,y,11:PRINT·CHR$(238);·ELSE·800
BCAE 800·r=CINT(RND*2):IF·r=1·THEN·x=CINT(RND*600):y=CINT(RND*350):IF·y>330·OR·y<100·THEN·810·ELSE·TAG:MOVE·x,y,15:PRINT·CHR$(203);·ELSE·810
GBLP 810·x=CINT(RND*600):y=CINT(RND*350):IF·y>330·OR·y<100·THEN·810·ELSE·TAG:MOVE·x,y,10:PRINT"*";
EBAJ 820·fg=0:i=1:EVERY·50·GOSUB·1010:f=CINT(RND*600):IF·f<10·THEN·820·ELSE·xx=f:yy=14
EDDP 830·IF·TEST(xx,yy)=2·OR·TEST(xx,yy)=1·THEN·MOVE·xx,yy,5:PRINT·CHR$(238);:SOUND·1,0,50,15,1,,25:FOR·t=1·TO·1000:NEXT:MOVE·xx,yy,0:PRINT·CHR$(238);:li=li-1:yy=yy+17:TAGOFF:LOCATE·7,1:PEN·9:PRINT·li:TAG
CBJH 840·IF·TEST(xx,yy)=15·THEN·IF·ty=0·THEN·SOUND·1,350:GOSUB·1420:ty=1:i=1
JBGP 850·IF·TEST(xx,yy)=8·THEN·IF·p=0·THEN·SOUND·1,200:li=li+1:p=1:TAGOFF:LOCATE·7,1:PEN·9:PRINT·li:TAG
KBIE 860·IF·TEST(xx,yy)=10·THEN·IF·o=0·THEN·SOUND·1,50:sp=sp+1:TAGOFF:LOCATE·17,1:PEN·5:PRINT·sp:TAG:o=1
JBKB 870·IF·TEST(xx,yy)=11·THEN·IF·v=0·THEN·SOUND·1,150:j=j+1:v=1:TAGOFF:LOCATE·12,1:PEN·6:PRINT·j:TAG
IBON 880·IF·li<1·THEN·TAGOFF:PEN·7:LOCATE·7,12:SOUND·1,200:DI:PRINT"GAME·OVER":FOR·t=10·TO·3000:NEXT:RUN
IAJJ 890·MOVE·xx,yy,6:PRINT·CHR$(229);
BAFJ 900·TAG
EAOP 910·SOUND·4,0,9,10,1,,31
DAPG 920·yy=yy+h
HAMO 930·IF·INKEY(27)=0·THEN·GOSUB·1190
JCGB 940·IF·INKEY(2)=0·OR·INKEY(47)=0·THEN·IF·j>0·THEN·IF·wep=1·THEN·GOSUB·1060:TAGOFF:LOCATE·12,1:PEN·6:PRINT·j:TAG·ELSE·GOSUB·1080:TAGOFF:LOCATE·12,1:PEN·6:PRINT·j:TAG
OABH 950·IF·INKEY(8)=0·THEN·IF·xx<10·THEN·xx=10·ELSE·xx=xx-3
OAHN 960·IF·INKEY(1)=0·THEN·IF·xx>610·THEN·xx=610·ELSE·xx=xx+3
NAMD 970·IF·INKEY(71)=0·THEN·IF·h<0.2·THEN·h=0.1·ELSE·h=h-0.1
BBIG 980·IF·INKEY(63)=0·THEN·IF·h>3.9·THEN·h=4·ELSE·SOUND·1,0,9,10,1,,31:h=h+0.1
LBFH 990·IF·yy>380·THEN·SOUND·1,300:s=s+2:l=l+1:p=0:o=0:v=0:ty=0:h=0.1:CLS:TAGOFF:i=0:j=j+1:m=1:fg=1:GOTO·690
CAFN 1000·GOTO·830
IBPM 1010·IF·i=1·THEN·MOVE·xxx,yyy,0:PRINT·CHR$(143);:xxx=CINT(RND*640):yyy=CINT(RND*350)·ELSE·1030
JACK 1020·MOVE·xxx,yyy,1:PRINT·CHR$(143);
GACK 1030·GRAPHICS·PEN·0:RETURN
AEJA 1040·i=0:IF·sp>49·THEN·1050·ELSE·PEN·7:PRINT"Welldone!·You·have·completed·all·of·the·levels,·but·you·only·collected";:PEN·1:PRINT·sp;:PEN·7:PRINT"space·stars.·Better·luck·next·time!":FOR·t=10·TO·6000:NEXT:RUN
LEBG 1050·PEN·7:PRINT"Welldone!·You·have·collected·all·of·the·space·stars·and·have·saved·the·planet·of·QUADZERK·from·the·terrible·destruction·that·would·have·destroyed·it.·You·have·won·the·game!!!·":FOR·t=10·TO·6000:NEXT:GOSUB·1510:RUN
PBOJ 1060·MOVE·xx,yy+17,5:SOUND·1,0,50,15,1,,31:PRINT·CHR$(238);:FOR·t=10·TO·500:NEXT:MOVE·xx,yy+17,0:PRINT·CHR$(143);:j=j-1:RETURN
DAIA 1070·GOTO·1060
HACC 1080·TAG:gg=yy+17:hh=xx+1
EACE 1090·FOR·n=1·TO·200
NAMP 1100·IF·INKEY(1)=0·THEN·IF·hh<630·THEN·hh=hh+2.5·ELSE·1120
NADK 1110·IF·INKEY(8)=0·THEN·IF·hh>4·THEN·hh=hh-2.5·ELSE·1120
IACK 1120·MOVE·hh,gg,12:PRINT·CHR$(145);
DAPH 1130·gg=gg+3.5
MCDB 1140·IF·TEST(hh,gg)=1·OR·TEST(hh,gg)=2·THEN·gg=gg+10:MOVE·hh,gg,5:SOUND·4,0,70,15,1,,31:PRINT·CHR$(238);:FOR·t=10·TO·500:NEXT·t:MOVE·hh,gg,0:PRINT·CHR$(238);:op=14:GOTO·1180
IAJF 1150·IF·gg>375·THEN·op=0:GOTO·1180
```

```
FAFC 1160·SOUND·4,0,3,10,1,,21
EAMD 1170·NEXT·n:op=0
NAEE 1180·j=j-1:MOVE·hh,gg-op,0:PRINT·CHR$(14
     5);:RETURN
HADA 1190·TAGOFF:i=0:CLEAR·INPUT
ACNC 1200·IF·INKEY(14)=0·THEN·IF·cheat$="ON"·
     THEN·IF·li<99·THEN·li=li+1:SOUND·1,200-l
     i,3:SOUND·4,100-li,3:LOCATE·7,1:PEN·9:PR
     INT·li
ACGK 1210·IF·INKEY(20)=0·THEN·IF·cheat$="ON"·
     THEN·IF·sp<1·THEN·sp=sp+1:SOUND·1,200-sp
     ,3:SOUND·4,100-sp,3:LOCATE·17,1:PEN·5:PR
     INT·sp
MBGK 1220·IF·INKEY(5)=0·THEN·IF·cheat$="ON"·T
     HEN·IF·j<99·THEN·j=j+1:SOUND·1,200-j,3:S
     OUND·4,100-j,3:LOCATE·12,1:PEN·6:PRINT·j
PCFK 1230·IF·INKEY(13)=0·THEN·IF·cheat$="ON"·
     THEN·IF·l<99·THEN·yy=381:s=s+2:l=l+1:p=0
     :o=0:v=0:ty=0:h=0,1:i=0:m=1:fg=1:SOUND·1
     ,200-l,3:SOUND·4,100-l,3:LOCATE·2,1:PEN·
     4:PRINT·l:levinc$="YES"
GDIP 1240·IF·INKEY(58)=0·AND·INKEY(69)=0·AND·
     INKEY(60)=0·AND·INKEY(43)=0·THEN·IF·chea
     t$="OFF"·THEN·CLEAR·INPUT:FOR·che=200·TO
     ·50·STEP·-1:SOUND·1,che*2,2:SOUND·4,che,
     2:NEXT:BORDER·26:FOR·t=1·TO·1000:NEXT:BO
     RDER·0:cheat$="ON"
JBCP 1250·IF·INKEY(18)=0·THEN·i=1:IF·levinc$=
     "YES"·THEN·levinc$="NO":l=l-1:TAG:RETURN
     ·ELSE·TAG:RETURN
IAMO 1260·IF·INKEY(67)=0·THEN·TAG:GOTO·1280
DAGA 1270·GOTO·1200
FADF 1280·i=0:FOR·n=1·TO·200
EAEM 1290·x=CINT(RND*600)
EAAM 1300·y=CINT(RND*360)
EACF 1310·p=CINT(RND*3)
KAPB 1320·u=CINT(RND*4):IF·u=0·OR·u=3·THEN·13
     20
IAHH 1330·k=CINT(RND*31):IF·k=0·THEN·1330
EAPM 1340·IF·p=0·THEN·z=5
EAOM 1350·IF·p=1·THEN·z=2
EAEN 1360·IF·p=2·THEN·z=6
NAJA 1370·SOUND·u,0,10,15,1,,k:MOVE·x,y,z:PRI
     NT·CHR$(238);
CALC 1380·NEXT
EALK 1390·FOR·t=10·TO·2000
CAEC 1400·NEXT
BALN 1410·RUN
LABC 1420·i=0:lx=xx:ly=yy+14:GRAPHICS·PEN·0,1
BAEM 1430·TAG
HAKF 1440·MOVE·lx,ly,14:PRINT·".";
CBBE 1450·ly=ly+10:IF·ly>383·THEN·ly=yy+14:FO
     R·t=10·TO·50:NEXT·t:GOTO·1470
GACJ 1460·SOUND·1,ly,4:GOTO·1440
BBOD 1470·GRAPHICS·PEN·1,0:dd=CINT(RND*2):IF·
     dd=0·THEN·col=5·ELSE·col=2
BCIA 1480·MOVE·lx,ly,col:PRINT·CHR$(238);:SOU
     ND·1,0,10,15,1,,31:MOVE·lx,ly,0:FOR·t=10
     ·TO·40:NEXT:PRINT·CHR$(238);:FOR·t=10·TO
     ·30:NEXT·t
BBNN 1490·ly=ly+10:IF·ly>385·THEN·TAGOFF:PRIN
     T·CHR$(22);CHR$(0):TAG:RETURN
DALA 1500·GOTO·1470
NBDC 1510·TAGOFF:plan=0:MODE·0:PEN·1:LOCATE·1
     ,1:PEN·14:PRINT"PLANET·POWER·=";:PEN·7:P
     RINT·ROUND(plan);:PEN·9:PRINT"%"
IAOK 1520·TAG:x1=270:y1=140:x2=284:y2=190
EAMB 1530·MOVE·x1,y1,1
OCHE 1540·PRINT·CHR$(141);:GRAPHICS·PEN·2:PRI
     NT·CHR$(198);:GRAPHICS·PEN·1:PRINT·CHR$(
     142);:MOVE·x1,200,0:PRINT"·";:GRAPHICS·P
     EN·6:PRINT·CHR$(155);
FACA 1550·FOR·pl=1·TO·sp
EADC 1560·x2=300:y2=191
GAFJ 1570·MOVE·x2,y2,4:PRINT"*";
KAKJ 1580·y2=y2-2:SOUND·1,y2/1,2,7:SOUND·4,y2
     ,1,7
HDPL 1590·IF·y2<151·THEN·MOVE·x2,y2,0:PRINT"*
     ";:SOUND·1,300,5,15:SOUND·2,200,5,15:SOU
     ND·4,100,5,15:INK·2,26:FOR·t=1·TO·100:NE
     XT:INK·2,6:TAGOFF:plan=100/sp*pl:LOCATE·
     15,1:PEN··7:PRINT·ROUND(plan);:PEN·9:PRI
     NT"%":TAG:NEXT:GOTO·1610
DANA 1600·GOTO·1570
CAPJ 1610·TAGOFF
IBEB 1620·LOCATE·1,3:PEN·5:PRINT"THE·PLANET·I
     S·RESTORED.·CONGRATULATIONS":FOR·t=1·TO·
     4000:NEXT:RUN
```

Multiface Protector

Sean McManus has sent us a rather nifty little routine to protect any program against the Multiface. He's fairly confident (as are we) that it goes slightly spazmo at automatic switch Multifaces, as it sits in the background and continually checks. Enjoy and protect, etc.

```
PADM 1·'·Multiface·Protection·Program·-·12th·
     June·1991
GAMJ 2·'·(C)·1991·Sean·McManus
AAKH 3·'
BBBO 4·'·Please·credit·where·used·in·programs
     .·Thangyew.
AAMH 5·'
XDEB 10·MEMORY·39999:a$="z215D9C068111649CCDE
     FBC21579C110F00010A00C3E9BC0000000000000
     000000000000001E8FEED493A0000FEF3C0F3761
     2Fd":FOR·g=1·TO·51:a=VAL("&"+MID$(a$,g*2
     ,2)):POKE·g+39999,a:chk=chk+a:NEXT:IF·ch
     k<>4433·THEN·PRINT"Error·in·Data.":STOP
PBCK 20·CALL·40000:MODE·2:INK·1,26:PEN·1:PAPE
     R·0:INK·0,0:BORDER·0:PRINT"Multiface·Pro
     tector·-·(C)·1991·Sean·McManus":PRINT
     0,00,END
```



It looks confusing in black and white, but it's a great program if you take the trouble.

Send 'em in

If you've got a type-in you'd like to share with the CPC world then send it in to us (on disc or tape, please – sorry):

Amstrad Action
Type Ins
30 Monmouth Street
Bath
BA1 2BW

For various reasons we've decided that we'll not pay for all type ins – instead we shall give prizes to those that we feel are of special merit. But don't let that put you off, it's just for fun after all.

TypeChecker

To round things off, we thought we'd better give you aother copy of *TypeChecker* (the Type-In checker used in the past to check for tryping errors, speeling mistokes, etc.). Without further ado:

```
PAML 10·'·TypeChecker·V1.0·-·By·Simon·Forrest
     er·-·Dec·1992
MAOJ 20·'·For·Amstrad·Action·-·Public·Domain
DANK 30·MEMORY·&9FFF
CAJK 40·csum=0
GAME 50·FOR·addr=&A000·TO·&A05B
DAKJ 60·READ·byte$
GAJB 70·byte=VAL("&"+byte$)
FACF 80·POKE·addr,byte
GAFB 90·csum=csum+byte
DALK 100·NEXT·addr
OACI 110·IF·csum<>&2ADD·THEN·PRINT·"Checksum·
     Error":END
LAHE 115·POKE·&A001,PEEK·(&BB5B):POKE·&A002,P
     EEK·(&BB5C)
KAHI 120·POKE·&BB5A,&C3:POKE·&BB5B,&3:POKE·&B
     B5C,&A0
MACN 130·PRINT·"TypeChecker·V1.0·Installed":E
     ND
MABC 140·DATA·CF,FE,93,FE,0A,CA,00,A0,F5,C5,D
     5,E5,FE,0D,CA,22
LACJ 150·DATA·A0,5F,16,00,2A,5A,A0,19,22,5A,A
     0,E1,D1,C1,F1,C3
LAFJ 160·DATA·00,A0,3E,20,CD,00,A0,3E,18,CD,0
     0,A0,2A,5A,A0,7C
LADI 170·DATA·CD,45,A0,7D,CD,45,A0,3E,18,CD,0
     0,A0,21,00,00,22
LACN 180·DATA·5A,A0,C3,1B,A0,F5,E6,0F,C6,41,C
     D,00,A0,F1,E6,F0
KAJC 190·DATA·1F,1F,1F,1F,C6,41,CD,00,A0,C9,0
     0,00,END
```

The checksum codes are displayed on the left hand side of the listing, though will appear in highlighted (inverted) form on the right had side when you list the program yourself. The program will not provide a correct code whilst you are typing the program, only when it is LISTed afterwards. Another important warning that must be repeated is that YOU MUST NOT ENTER THE CHECKSUM CODES THEMSELVES, even though they appear on the listings.

Turning *TypeChecker* off (it is automatically initialized when you RUN the above program) and back on again is quite simple:

```
POKE &BB5B,0    To turn it off
POKE &BB5B,3    To turn it back on again
```

And that's all there is to it!

Power Up

CHARTS right here, right now • GAME REVIEWS pages 44-46 • CHEAT MODE pages 54-57

It's time for thre truth. The AA team doesn't actually exist. The decision to tell you the truth came form the very top of the company, as a gesture to our loyal readers.



Tim Norris

Or should we say, Rod Lawton? That's right, readers. Tim's writer had to change the identity of our beloved editor purely because he lost the trademark beard. The experimental period saw the fast departure of Linda, due to Alan (Tim's writer) feeling a little uncomfortable in dresses that small. Alan is actually a business lawyer from Bristol, who happened to own a CPC (we decided to keep this quiet – the readers'll hate him more that way).



Simon Forrester

But maybe you'll know him better as Adam Peters? The final idea for the hairy dropout you think you know today came from the Linda Barker wig being kicked about a bit, and thrown at Adam. However, the loveable Peters chappie wasn't exactly real. You see, since the very early issues, the staff writing (Yeah, like that's a verb. – Ed) has all been undertaken by a man called Colin Campbell, who's a plasterer from Croydon.



Nick Aspell

We really are surprised this one hasn't been spotted before, really. Look at the picture to the left. Now dig back a few issues, and find a picture of Maryanne. Now go back to the Nick picture, and find a black biro. Draw on some more hair. Spot any similarities? Yes, that's right. Now get the last ish. Draw some spikes on. Remember Ollie? It's all coming together now, isn't it? And for a British Rail announcer, he can't half draw...

The hit parade

ELSPA PENGUIN CHARTS · COMPILED BY GALLUP

1	Street Fighter	Kixx
2	New Zealand Story	H/Squad
3	Quattro Skills	C/Masters
4	Dizzy: Yolkfolk	C/Masters
5	Terminator 2	H/Squad
6	Super S/Invaders	H/Squad
7	First Div Manager	C/Masters
8	The Last Vampire	Atlantis
9	Flimbo's Quest	Kixx
10	Hero Quest	GBH



SPECIAL STREET FIGHTER II FEATURE

Page 48

Reviewed this month



TRAKERS

Page 44



ADDAMS FAMILY

Page 46



Scott & Gary Kennedy ■ £10 ■ Disc only

Trakers



When you're bored of fighting the street, why not explore a hostile alien planet? It's a good, clean, and productive way to spend your free time.

No, it's not a spelling mistake, it's the name of a droid that used to belong to the crew of the Starl, an intergalactic exploration team. Anyway, through various mishaps, Trakers gets left behind when the crew's ship takes off for brave new worlds, leaving him on a hostile old one, Magellanx. So you've got to wander around, somehow finding 10,000 credits to buy a one way ticket home. It's a nice, straightforward, down to earth (literally) plot. You play the part of Trakers, a cute little droid who's head bobs up and down when he walks (or rather rolls – he's on caterpillar tracks). On to the game.

Hold on a minute, this is *Dizzy*! Oh no, sorry, my mistake, it's actually quite good. The idea is the same though, romping around a flick screen world collecting and using items in conjunction with static features (computer consoles, etc) and other items. As with *Dizzy*, this combination of gameplay styles divides the game clearly into two main elements – puzzles, and reflex.

The puzzle side to the game seems very well written, with each object having a logical purpose, and each problem having a logical solution. For instance, you'll need the passport to get past the gate to the city, a cash card to get some money from the cash machine, a lighted piece of wood to set off the dangerous gasses... *(That's enough clues for now. – Ed)* Occasionally, you will find objects that don't have any immediate use, just as you'll come across obstacles that take you a while to get past. What may be a slight turn off at first is that objects are nearly always placed absolutely miles away from the location where they're needed, but once you've experienced this for the first time, you learn to make use of your various trips.

The other side to the game is, of course, the reflex/timing angle. There are still the standard dangerous objects and situations to manoeuvre little Trakers round, as well as lots of meanies to avoid. The timing needed here is, to be fair, superhuman at times. There will be the odd screen which will have you putting your head through the monitor (try getting to the sea, for instance).

Of course, exploration is a major factor of both game styles, giving a possibly quite linear puzzle game new depth, and a quite demanding timing game strategy. So combined, the three factors of *Trakers* make up a game that is really quite varied, interesting, and above all, fun! Though the map only boasts a modest 100 screens, the game makes use of objects and

Home Brew

Though it has all the qualities of a normal full price game, *Trakers* isn't actually released by any commercial figure. It first arrived in the AA office quite a few months back, as a preview – Scott and Gary Kennedy, the authors, were in the process of drumming up a bit of interest from the software houses. In the end, though, they decided to go it alone and sell it themselves – a brave move, but a good game. We think they'll succeed, and wish them a lot of luck with *Trakers* and future releases.

It's small development teams like this that are keeping the CPC alive today – with a rapidly declining amount of commercial interest in the machine, and a completely un-moderated PD scene (anyone can produce yet another Tetris clone), the future of the CPC lies in the hands of Action, and smaller groups of good programmers like the Kennedys.





Don't stare at this picture for too long, or you might just see a little egg on legs.



It's difficult screens like this one that really make you want to kill the programmers.



That computer console reveals that the air is full of dangerous gasses. Got a light?



Swamps full of dangerous goo, squelchy ground – have you seen Simon's bedroom?

locations in such a way that you won't run out of space, and you won't run out of map.

Another thing that makes *Trakers* so special is the graphical polish. *(Buy some Graphical Polish today. Only 15 shillings a tin. – Ed)* The scenery is never boring, and hardly ever repeats. How on earth so many graphics and sprites were ever stored in 64k is beyond me, as the library of sprites and static features is truly huge. The sprites are all well animated, with no flicker, and no jerking. The loading screen and a few elements in the game itself do give the impression that 'cute' is trying to creep in at the edges, but it's nothing to worry about, as nothing even remotely resembles farm produce on legs, and there's not a scrap of fur to be seen.

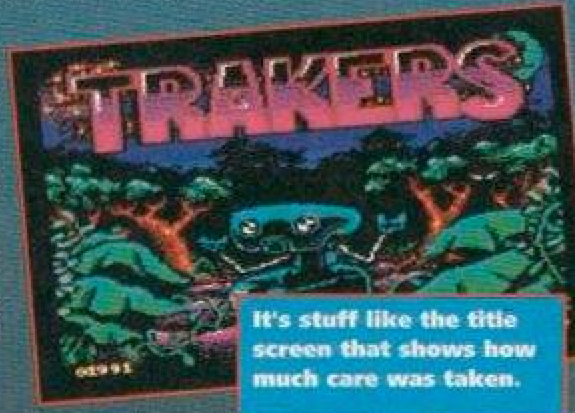
The artwork is second to none. The scenery all blends nicely, and actually manages to add an air of loneliness and desolation. The city is full of high roofed, silent rooms, and the outside computer terminals look overgrown. Nasties take a variety of forms, ranging from *Jet Set Willy* style floating meanies (though they're much nicer to look at than *JSW* ever was) to slightly more normal birds, butterflies and such. From what we've seen, there isn't a single ambiguously drawn object in the entire game.

Graphically, *Trakers* explores a slightly different avenue to the likes of *Prehistorik II* and *Super Cauldron*, in that the emphasis is on atmosphere and impression rather than how many things move at once (not that there's anything wrong with either style). This, though not as visually mind blowing as Titus's two releases, shows an incredible amount of care on the part of the artist.

The title screen erupts with a dramatic bong, an atmosphere which stick around throughout the package. Spot effects are sweet, with the odd little splash, rumble, plink (when you manipulate an object), and the like.

It's all really cheerful, right? 'What a fab game,' you're thinking. Well, there is the odd downer, as with any game.

Gripe – timing. Remember earlier I mentioned the need to have reflexes at the superhuman end of the scale? Well, the further you progress through the game, the more difficult things get. Okay, a nice moderated difficulty factor does a game the world of good, but there are some deadly obstacles that place your progress (or even life) very firmly in the lap of pure fluke. Some screens don't require practice so much as continually re-trying until you either die or get past. This will irritate you – as soon as you know you're going to have to travel across a certain part, you can automatically write off three or four lives as natural wastage. This is a downfall – not enough to detract from the game in any big way, but enough to put you in a bit of a bad mood at times. It might be wise to bear in mind that this review was written by someone who managed to chew through seven joysticks in half over the space of half an hour though, and so maybe isn't all that balanced.



It's stuff like the title screen that shows how much care was taken.

This slight lack of consideration in some screen designs won't ruin the game for you though, as the initial ease whilst you get used to the format gives you a taste of a game you'll want to see a lot more of. This definitely gives the game a very good initial attraction, and serves as a very good advertisement for the rest of the game.

Once you've got a little deeper into the game, you will come across some of those irritating screens, but even when you're ready to find the authors and kill them, you'll keep playing. You see, this game is anything but linear. If you don't feel like solving one puzzle, you can spend your time doing other stuff instead, and leave the harder stuff till you feel up to it. Such game design is refreshing, showing care and attention we rarely see in a game these days.

All in all, then, *Trakers* is a damned fine game. It's well written, and incredibly good fun to play. It's graphically appealing, with atmospheric sounds to accompany the equally moody setting. If you don't get this one, you're missing out on two counts. First, because *Trakers* is a damned fine game, and secondly because it's the start of quality home-brew games for the CPC. ●

Contact

To get hold of your copy of *Trakers*, send a cheque or postal order for £10 made out to **Scott Kennedy** at the following address:
32 Lostock Road
Seedley, Salford
Greater Manchester, M5 2LH

VERDICT

GRAPHICS 94%
Some beautifully drawn sprites which are well animated and very entertaining.

SONICS 85%
No tune, but a pretty nice variety of sound effects.

GRAB FACTOR 88%
The game draws you in quite nicely, starting with the easier stuff.

STAYING POWER 85%
But it does get difficult a little quickly.

Look, it's just good, okay?

RATING 92%



Second floor, ladies lingerie, sporting goods, and kitchenware (it's a lift, you see).



Oh we do like to be beside the seaside, oh we do like a nice predictable caption.

The Addams Family

£3.99 ■ Cass ■ Hit Squad ■ 061 832 6633

It's Creepy, Kooky, Spooky, Ooky. It's Simon reviewing The Addams Family – double spookerama. And no mistake. Or something.

Can you honestly tell me that as a child, you really enjoyed Tiswas? It had all the right ingredients – wackiness, an evil villain, humour, Chris Tarrant, etc – but it I always found it incredibly scary. Sort of 'clown that grins too much' scary. All of this is, of course, only vaguely linked to *The Addams Family*, but I just wanted to mention it.

You see, The Addams Family weren't scary as such, but they did possess a certain something that prompted slightly uncomfortable laughter from people who were never quite sure how hard to laugh.

So is it possible to capture this deep spirit of creepiness on a computer? Has this re-release of Ocean's original game got what it takes?

The plot's simple – the whole family has been imprisoned, and it's up to one man to rescue them – Gomez. So you, controlling Morticia's slightly creepy husband, must journey round the castle and do the standard heroic bit.

It's a platform game. Welcome to Yawn City, Alabama, population one game reviewer. There's a fairly good selection of nasties. Oh, and there are some doors to go through. Whoopdedoo. So, what with all this tired concept stuff, why is it so likeable?

The format is strange – bad guys are killed by jumping on their heads. This, though being old hat in arcades and console games, is a relatively new development for the CPC. Probably the closest thing recently has been *Prehistorik II*, which had a



Two suits of armour engage in a discussion about Proust. Gomez slips by unnoticed.



There's only one thing worse than a chasm with spikes at the bottom. And that's, er...



Never trust a man with a moustache. Always try to leave your moustache with a woman.

distinctly consoley feel to it. Good news? Well, it adds diversity to an already broad games selection for a dying (as far as the computer games industry is concerned) machine, so it can't be bad.

For a game to work as well as this one does, the graphics have to be quite good. *The Addams Family* is extremely nice to look at, with a broad-ish array of different backgrounds, as well as a good variety of bad guys. The animation is smooth, with no sprite flicker, and no speed reduction.

One thing you may notice is the slightly naff title tune plonking away in the background on title sequence but, thankfully, this honky-tonk harmony in everything flat dies as soon as the game gets going. Sound effects are a damned sight better than the opening tune, and do actually manage to add something.

When you first play the game, you'll have a mixed reaction. On the one hand, the game holds nothing you won't have seen before but, on the other, it does make a very nice platform romp game. Ocean seem to have managed to combine the good points of many, many games, and leave behind all the niggling little things about previous platform yawn-'em-ups.

Once you've managed to get past the first screen, the whole game opens itself up to you. That's not to say you'll be able to complete it all that easily, it's just that the techniques used on the first screen are carried through the whole game. This way, you'll manage to see quite a lot more of the game each time you play it, and you won't come up against too much trouble with screens you've already completed.

This has got to be one of the better re-releases of late, if not the best. What the game loses in lack of originality, it certainly makes up for in size, fun, and challenge.



Simon says, 'Hold both hands in the air.' Well done Mr Addams, you're the winner.

VERDICT

GRAPHICS 93%
Candles create bright patches on walls, and portraits hang in the house – it's worth watching.

SONICS 72%
The title tune has about as much appeal as Jimmy Tarbuck, and in-game effects don't add much.

GRAB FACTOR 85%
An initial easiness will probably draw you into the game quite quickly...

STAYING POWER 87%
And long enough to discover other, more difficult sections. You'll play for quite a while.

A game that you really should take a good look at – you don't know what you're missing.

RATING 90%

Street Fighter II

One of the most hyped games of 1993 has been US Gold's Street Fighter II. Just about every format has seen a version except the CPC. It's not US Gold's fault, but just what exactly is going on?

As with everyone else, we at **AA** started to get a little excited when we heard of the development of the sequel to the massively popular arcade game, *Street Fighter*. A quick call to US Gold confirmed a release date of, as far as you're concerned, issue 90. It was with a tear in her eye that ex-**AA** ed Linda Barker told the world it would be appearing next issue.

Issue 91. Tim's first ish. *SF2* was scheduled, and with a heart filled with hope, I rang US Gold to find out when we could have the most publicized beat-'em-up in history for review. Unfortunately, it was not to be for that issue, and the two pages went to *Playdays* instead.

Issue 92. We're all a little disheartened, and the regular call to US Gold is not cheerful. Two to three weeks, they said. This is what they've been saying since we first heard of the CPC version.

Issue 93. Somewhere in US Gold, a marketing manager picked up the phone to a staff writer trying really hard not to giggle. One of the most enjoyable parts of the mag was writing the Next Month copy.

Issue 94. It's not funny any more. Tim drops the Next Month reference, and **AA** resigns itself to missing out for another issue.

So what's going on?

The people responsible for actually writing *Street Fighter II* on the CPC are based in France. This has posed communication problems between the English office of US Gold, and the team.

The last **AA** heard, the programming team themselves were halfway to disbanding, and maybe scrapping the CPC version altogether. This is No Fun. Do you realise what you're missing out on? *SF2* is the most hyped beat-'em-up game of all time! Whether it's the best or not is a different story entirely, but we'll get that side clarified as soon as we see the finished game.

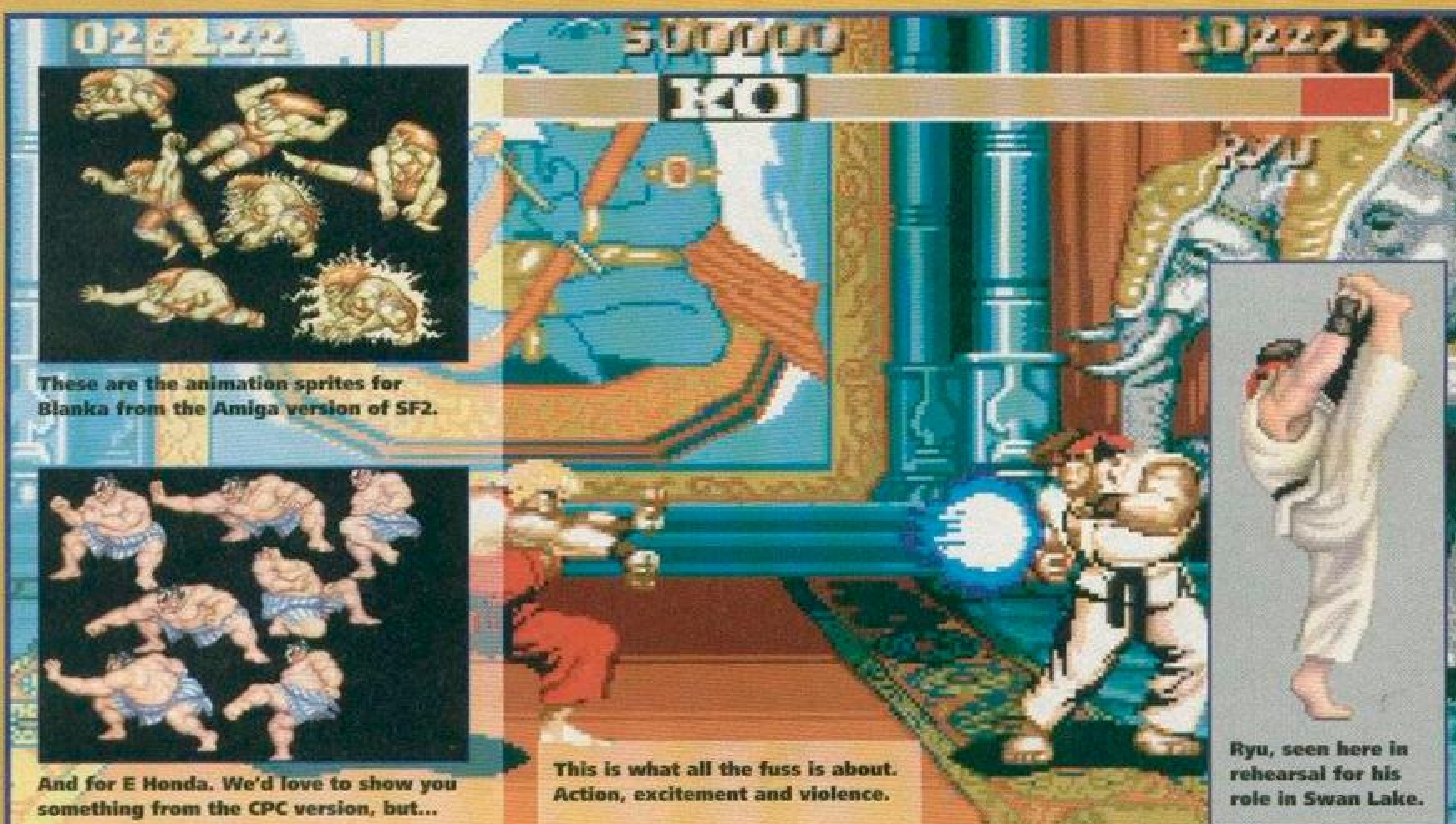
A merry tale

The *Street Fighter* story begins in arcades packed with several other mediocre beat-'em-ups. The only thing that separated *Street Fighter* was its pressure sensitive pads, giving the player the ability to gauge the power of hits. This, to say the least, caught on, and gathered it's own following in no time at all. Apart from the pressure idea, though, *SF* was nothing special.

Street Fighter II. What's it all about? Well, the full story is a long and complex saga full of comic strips, feudal histories, and full personal details on all eight players. The larger amount of characters in the sequel allows for much more freedom, experimentation, and life span to be included in the game, as you can always find a new combination to pair up. Meet the guys:

Balrog

He's a boxer. What more needs to be said?



These are the animation sprites for Blanka from the Amiga version of SF2.

And for E Honda. We'd love to show you something from the CPC version, but...

This is what all the fuss is about. Action, excitement and violence.

Ryu, seen here in rehearsal for his role in Swan Lake.

Control

The versions of SF2 we've seen so far work on quite a complex system involving about four fire buttons (available on console machines), and quite a complex set of movements. The Spectrum version (the version we'll be drawing the most from as far as what the CPC version will be like) drastically reduces the control system's capabilities by limiting everything to one button. This won't pose to much of a problem in normal play, but it is another reminder of how the CPC just isn't equipped to cope with some of the software ideas floating around these days.

Anyone with a headbutt as a special move is going to have all the mental agility of a flea, and about half the charisma.

Blanka
Ha! He may be big and green with a huge amount of red hair, he may eat people's faces, and he may pass currents through his body whenever he pleases, but I just can't get over the fact that punk's answer to the Hulk is actually called Jimmy!

Chun Li
Probably the most famous of all the *SF2* characters, Chun Li apparently watched her father get bumped off by M Bison (so they're not all that chummy), and has a variety of special moves most of which involve legs flying everywhere (along with the bad guys). Oh, and she's got split ends.

Dhalism
King of the rubber men, Dhalism is a monumentally bendy bloke. He can break someone's kneecap from clear across the screen with his arms that must stretch proportionally to about ten feet.

E Honda
What can I say? The original fat bloke is here. He's an expert at sumo wrestling, and has a variety of special moves highlighting the fact – from crushing or throwing an opponent to slapping all his flesh off.

Guile
Guile has to be the hardest of all the characters, whose various special moves pale into insignificance compared to his ability to walk up to someone and put his fist through their upper torso approximately 17 times per second.

Ken
Like Ryu but in a red suit.

M Bison
How much explanation does anyone need to attach to moves like 'head stomp' and 'flaming torpedo'? Don't try this at home, kids.

Ryu
Your standard boring non-mutated blokey in a karate costume, capable of fireballs, dragon punches, and couple of throws. Yawnarama.

Sagat
This is the blokey Ryu defeated the first time round, giving him a huge dragon burn for his trouble. He's angry, and he's seven foot five inches tall. What more do you need to know?

Vega
Strange chappie this, wearing a mask on his face and two foot claws on his hand. If having a two foot fingernail poked up your nose wasn't enough, he has a variety of throws and drops

Zangief
No special moves like fireballs, missiles, etc, but he has a rather impressive range of moves for putting someone's head through a paving slab, brick wall, or car. Seven foot and scary.

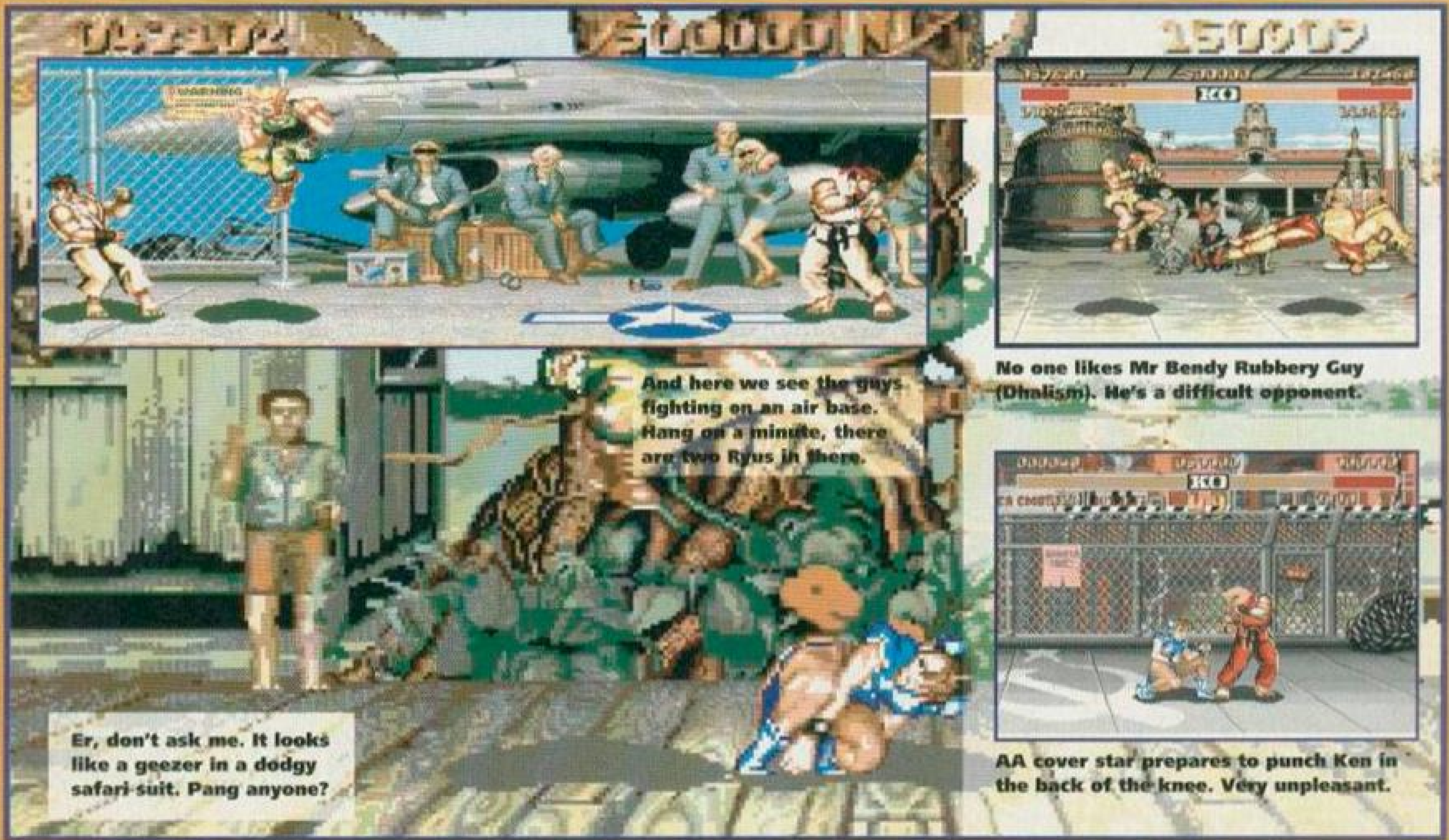
So all these people meet for a giant kick/punch/throw/burn-'em-up, and it's immortalized on your computer screen as *Street Fighter II*. But once again, where the hell is it?

The official word from US Gold is that it's still under development. The problem isn't with them, you see, but with the actual programming team, who are still working on the CPC version. We're going to be trying to talk to them ourselves soon.

We're eagerly awaiting further news as you read this and we may even have a preview version of the final thing to tell you about next ish. In the meantime, though, don't lose all of your hopes, but don't get them up either. ●

Coming Up...

Though we can't really promise anything concrete at this stage, you can rest assured that as soon as there's any sign of life on the *SF2*-hitting-the-streets front, you'll hear it from us. Please please please don't ring up asking when it's going to be released, as neither US Gold or Amstrad Action will be able to tell you at this stage, but be patient, and you could even see the biggest beat-'em-up ever on your CPC.



And here we see the guys fighting on an air base. Hang on a minute, there are two Ryus in there.

No one likes Mr Bendy Rubbery Guy (Dhalism). He's a difficult opponent.

Er, don't ask me. It looks like a geezer in a dodgy safari-suit. Pang anyone?

AA cover star prepares to punch Ken in the back of the knee. Very unpleasant.

Reaction

Send your letters to: Reaction, Amstrad Action, 30 Monmouth Street, Bath BA1 2BW

It's happened again

Many thanks for printing my letter on the CPC - Mega Drive lead, but oops, the gremlins got in. It must have been the PC word processor I used instead of my trusty Brunword. *(But John, the bit with the mistake was hand written. Bizarre. – Ed)*

The amended 8-pin DIN connections are as follows:

pin 1 – red
pin 2 – n.c.
pin 3 – n.c. (luminance connection makes no difference)
pin 4 – ground
pin 5 – green
pin 6 – n.c.
pin 7 – sync
pin 8 – blue

Incidentally, I've since checked the pin-outs with Sega UK and they're correct. My deepest apologies for the boob.

I think the new format mag is pretty good and the serious software on the covertape is a great idea. Not everyone may think horse racing is serious, though.

Personally, I've been waiting for the spreadsheet, please let us have this before the database *(Oops. – Ed)* as the latter are more common – I've already got two but, as yet, no spreadsheet.

John Driver
Swindon

Thanks for pointing out the mistake, John. Er, the new version doesn't look anything like the old one – what happened? Anyway, this is probably as good a time as any to plead with anyone who's thinking of sending in any of these little ideas – please check them thoroughly before you invite us to share them with the rest of the world. We don't have the time or the facilities to check these things so if they're wrong we probably shan't find out. And then where shall we be? We'll all be murdered in our beds, I'll be bound.

Tape to disc

I've had some problems with transferring **AA** covertapes to disc. Because of the way the programs are saved, it's impossible to save more than one tape's worth onto one disc. To overcome this, I was advised to save the second tape onto another directory (User 01 instead of User 00). It worked fine but I can't get at the programs because the menus always try to access User 00 again. What can I do?

Merv
Australia

What you need is a little program from the famous Simon Forrester. Save it into User 00 and load it from there, but before you RUN it, jump to the directory your other stuff is saved in (does that make sense?) and it'll run the correct menu for you, correctly. Apparently.

```
DAOG 10·addr=&BE80
DAGJ 20·READ·byte$
HAPJ 30·IF·byte$="**"·THEN·CALL·&BE80
HALD 40·POKE·addr,VAL("&"+byte$)
EAEF 50·addr=addr+1
CABE 60·GOTO·20
GANF 70·DATA·21,9F,BE,06,04,11,00,C0
GAHO 80·DATA·CD,77,BC,EB,D5,CD,83,BC
GAPI 90·DATA·CD,7A,BC,E1,11,1A,00,19
GAAO 100·DATA·7E,5F,23,7E,57,EB,E9,4D
EAAB 110·DATA·45,4E,55,**
```

Oh no, another nutter

I thought **AA** needed a tune to brighten it up (not that it's not brilliant already)

Blues

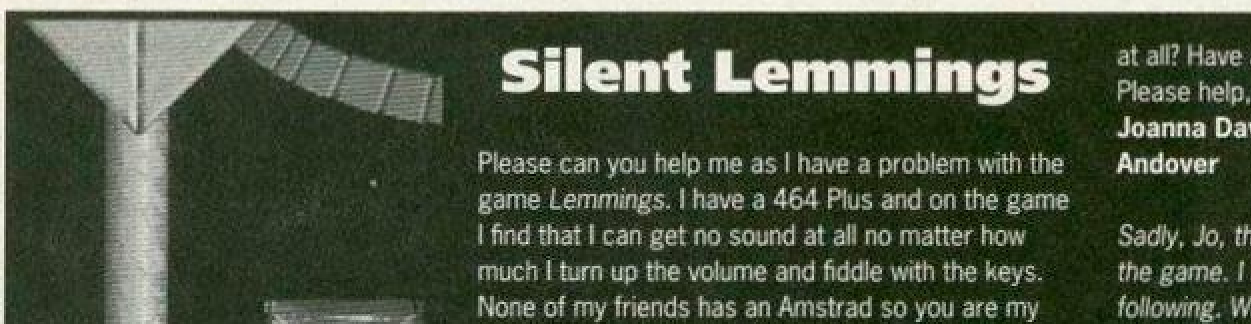
I woke up this morning (duh duh duh duh)
And I got out of bed (duh duh duh duh)
Martini Bianco went straight to my head
I went to feed the dog but the damn thing was dead (duh duh duh duh)
I went to the church and the priest he said (duh duh duh duh)
"Oh my son, you're looking depressed"
That's because my Amstrad's been broken so long... I guess.
(wow woo hee budoom wohee doobie do do da oooh)

The Ayresman
London

Hang on, I'll just fetch me harmonica.

And another one

I was most upset to read your reaction to Loopy Lou's letter (June 93) about the yummy, irresistible Simon Forrester. How can you say he isn't even remotely attractive and that Loopy Lou should seek help at once? I think this is the most hurtful thing I've ever heard, or read, even. *(You should have heard what I said when I first read*

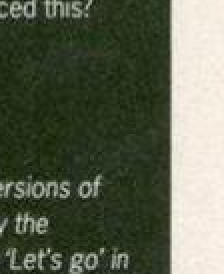


Silent Lemmings

Please can you help me as I have a problem with the game *Lemmings*. I have a 464 Plus and on the game I find that I can get no sound at all no matter how much I turn up the volume and fiddle with the keys. None of my friends has an Amstrad so you are my last hope for getting some help for a bit of music. Or doesn't the Plus version of the game have any music at all? Have all 464 Plus owners experienced this? Please help, I'm desperate.

Joanna Davis
Andover

Sadly, Jo, there's no sound on the 64k versions of the game. I suggest you load it up and try the following. When the trap door opens, say 'Let's go' in a high pitched voice. When Lems fall to their deaths say, 'Eugh'. When you turn one into a bomb say, 'Oh no'. Fill the rest of the time with boings, splats, bangs and pops and hum the nursery rhyme of your choice and you'll have a version of Lemmings to beat anything on the PC, Mac, Amiga, ST, Mega Drive, etc. Hurrah.



We're stupid

Judging from the pages of **AA** you get a good few readers with problems with covertapes. Perhaps you could take a look at this one:

The third program on the AA93 covertape, *Mystical*, loads okay, but note that all three programs are on side one of the tape, side two is blank. However, when the tape stops the screen alternates between a *Mystical* title screen and a credits screen. Touch either the joystick or any button on the keyboard and the program freezes and the keyboard locks. The game will not start. Please help.

I M Firth
Penarth

Ah, yes, well. What happened was that we wrote the instructions and then found out that things weren't going to be quite as we expected. Oh dear. What you should find is that side two isn't blank but that it, in fact, contains some data for Mystical. If you load it from side one as normal, turn the tape over, rewind it and then play side two, the game should load. At least that's what the Hairy Happening tells me. And he's never wrong. Probably.

Sorry about using this. We like armadillos.

Loopy's letter – 'hurtful' doesn't even begin to describe it. – Ed) All I can say is that you have no taste whatsoever and should take a long hard look at yourself – and Si for that matter. Maybe then you'll be able to see what a lush kind of bloke he is (especially his lovely hair) and how lucky you are to have him working for **AA**. Amen.

A perfectly sane person

*I do think I'm lucky to have the Hairy Happening working for **AA**, but because he's a fine writer and a knowledgable chap. The fact that he's not very attractive to look at and wears an outrageous wig doesn't come into it.*

Law abiding

In between thoughts of how wonderful you all are, we've been wondering if there is any way of copying multi-load tapes onto disc using our Multiface 2. Of course we wouldn't do anything like that because it's not strictly legal and we're very law-abiding citizens – but we'd be interested to know hypothetically.

Please help

Hazel & Graham
Stockport

Apart from saving each bit separately and loading just the section you want to play, no. But we're open to suggestions. Or we would be, if copying games with a Multiface wasn't a bit dodgy.

Oh, PS. I've just edited Richard's Technical Forum pages and there's a letter in there on this very subject. He doesn't think you can, either.

Type in probs

I have typed in Directory Editor (AA92) but I get the error 'type mismatch in line 270'. The line is:

```
270·a=VAL(_&H +a$):POKE·n,a:chk=chk+a
```

Would you please help me out with this problem.

Mrs F Hughes
Stevenage

Well, F, it could be any one of a number of things. Remember that the • symbol represents a space in the type-ins. Make sure you've closed all the brackets and quote marks. Make sure you've used colons (:) and not semi-colons (;) by accident. That should just about cover it. Probably. If it doesn't there might be something wrong with one of the other lines so you'll have to check through the whole thing.

Covertape suggestions

Thanks for putting *Tasword* on the covertape – it makes a nice change from *Mini Office*, especially the insert and re-justify function. Is the program compatible with the other Tas titles (*Taspell*, *Tasign*, etc) when transferred to disc?

How about putting a Mah Jong game on the covertape (one in the eye for PC owners)? Colossus (as in *Bridge*, *Chess*, etc) did a version but I've never been able to get hold of it. Or how about Hewson's *Uridium* or *Zynaps*?

You previous idea of putting POKEs for earlier covertape games on later tapes was a cracking idea. *(A hacking idea, surely. – Ed)* How about it for those of us without a Multiface? I managed to finish a game for the first time (*Ranarama*) thanks to that bright idea.

Yours admiringly (I wouldn't like to do your job) *(You would if you knew how easy it was. – Ed)*

Lesley Relph (don't misspell it)
Carlisle

Yes, Tasword should work with the other Tasthings.

Er, I think you and I are the only people who play Mah Jong so it wouldn't have much in the way of mass appeal, really. Unless you mean the tile matching thing that uses Mah Jong (or a range of other) tiles. That might be fun. Maybe.

We'll ponder the POKEs thing, but it does raise an interesting point. You say you finished a game using a POKE. But, by using the POKE, you cheated so can you be said to have truly finished the game? How does everyone else feel about this? What do you think about this whole 'cheat' thing? If you fork out for a game, is there any point, any feeling of satisfaction, in typing in a cheat that someone else worked out and then playing the game? Where's the challenge? Why not just give one of us a few bob and we'll come round to your house and play the game for you? Or do you think that games are too difficult and that the only way to see them all and get full value for money from them is to have some sort of infinite lives cheat? If that's the case, why don't software houses include fully documented cheat options? Let us know what you think.

More fan mail

I've been a reader of your magazine for a good three years now, and I've seen staff come and go, but it still goes from strength to strength, and it's plain to see why it as beaten all its competition off and into the gutter.

I just thought I'd put finger to keyboard to ask a few questions and stuff, if I may.

i) In AA93, Rahul Gindha asked if 3" discs would work on the PCW as well as the 6128. You said they wouldn't. This, however, is not the case. There are some text adventures such as *The Taxman Cometh* which were made initially for disc-based 464s and 6128s but will also work on PCWs. Try writing to Joan Pancott at WoW Software, 78 Radipole Lane, Weymouth, Dorset, DT4 9RS for more info.

ii) The Classic Collection tape is a brilliant idea and well worth the money, but I was wondering if you could consider putting the type-ins back on it, perhaps on a bi-monthly basis? Or the POKEs maybe?

iii) With the new tape well under way, would it be possible to have requests for what main game is on there? If so I'd like to see something like *Edd The Duck*, *Elite* or *Scrabble*.

iv) Are disc games necessarily 128k only? I have a 464 Plus with a DDI-1+ drive and a memory expansion so I don't suppose it really matters that much, but I'm a bit curious. Is *Super Cauldron* 128k only?

v) There are tons of budget games on sale at the moment that you haven't reviewed yet, such as *Final Fight*, *Shadow Dancer*, *Pictionary* and *Street fighter*. Perhaps you could do a round-up of budget games. What do you think?

vi) Although we were told what happened to Rod and Linda, whatever happened to Adam Peters? One minute he was here, the next minute he wasn't. Explain please.

vii) Tim and Simon are doing a terrific job. I hope they stay a nice long time. And tell Nick the new logo is great, so all you misery guts out there can stop complaining.

viii) Finally, I love this magazine tons. It seems more like a group of mates chatting telling each other gossip about their favourite computer than the formal dull stuff in certain PC mags, and I know 27,000-odd readers feel the same way. The CPC isn't on its death bed yet, it's still got years of mileage left in it. So be optimistic and go on supporting.

Thanks for listening

Matthew Long
Reading

What a lovely chap you are.

i) Thanks. Still it was pretty good as a general rule, wasn't it? You're not Joan Pancott disguising her voice, are you?

ii) Aaaaarrrrrgh!

iii) Yes. Okay, we'll put the games on our list.

iv) No, they're not necessarily 128k only. Being

curious is a Good Thing. Simon says Super Cauldron isn't 128k only. But he didn't sound very positive.
v) Damn fine idea.
vi) He was last seen on his way to Central America muttering something about it being a good place for a revolution.
vii) Gosh, thanks.
viii) Gosh, thanks again.

Too many Cooks

I'd like to make a few points here, if I may: First, I'd like to know if this is a record... I only had one covertape, but I had THREE covers – where are my other two tapes?

Secondly, I read some months back that some people were complaining about coverdiscs, or the lack of them. I'd like to join this party and say that I'd like coverdiscs, but I know this will probably never come about. I do have this suggestion, though, which might be worth considering:

If some people want coverdiscs then they should do the following. Subscribe and enter a cover letter saying they would like coverdiscs. You could charge extra to cover the costs. You wouldn't have to change the magazine in any way. The subscribers, though, would have to pay for the privilege and have to subscribe so that you could send them through the post, not in the shops.

Thirdly, I've recently got my hands on issues one and two of ***AA*** – now I have the complete set. Here are some astonishing facts about early Reaction pages for you:

54% of the letters commented on how badly the magazine was produced. Either that or saying it was 'fab' then pointing out all the holes.

39% (only) of the letters said ***AA*** was great. Some had a few things to say, but were only passing comment and wouldn't dare to criticize.

7% of the letters said that the magazine was good or bad and then went on to cause embarrassment to themselves in some way.

Then I had a look at Reaction in AA93:

13% of the letters were complaints (but not bad ones).

67% were praise, comment, or just questions.

20% made themselves look like dummies.

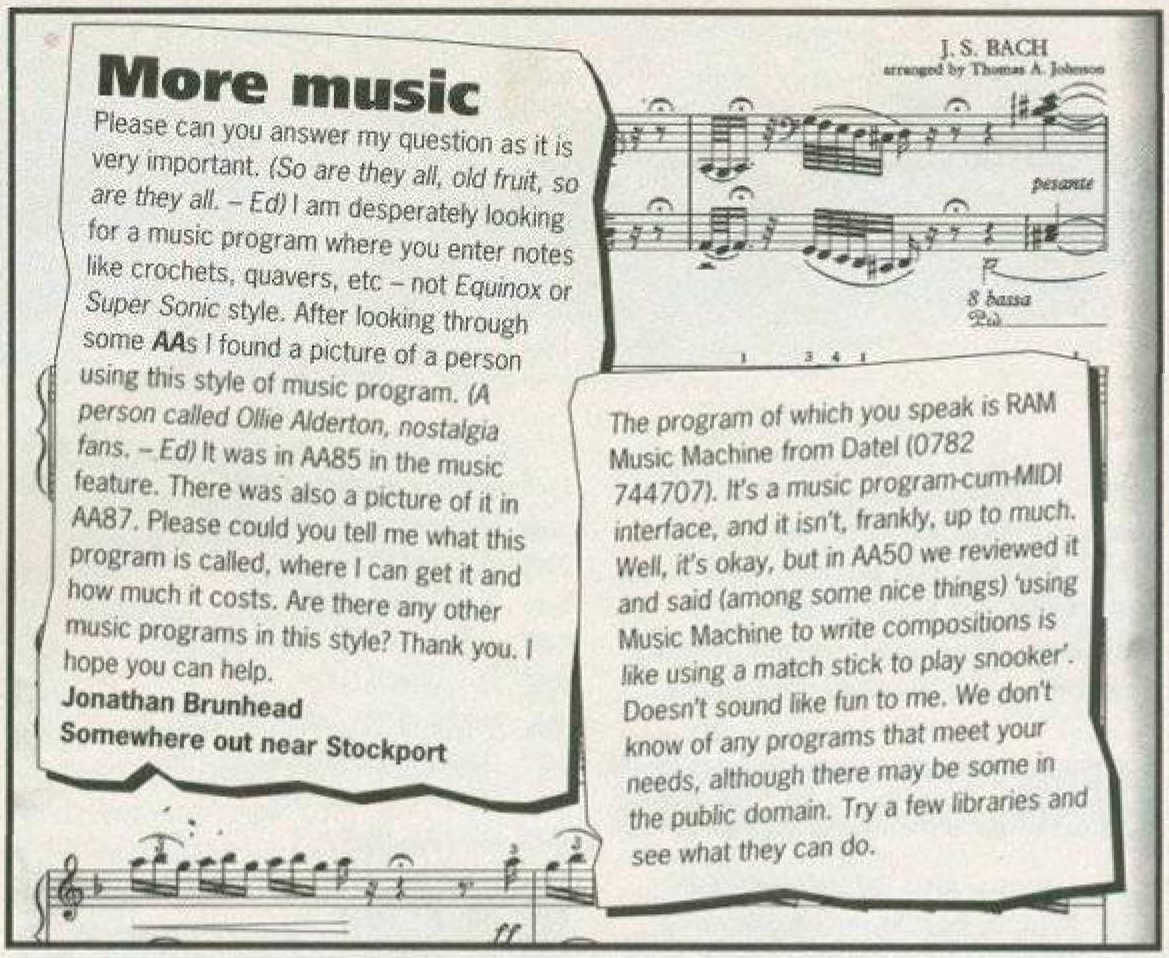
So, has *AA* improved, or has the readership scope improved? There's one to look into. Well, have to go now, keep doing a great job.

Angela Cook
Worthing

First, unfortunately, old fruit, someone phoned us the day before we got your letter to tell us that he, too, had three covers. So, not only is it not a record, it isn't even that unusual. Sorry.

Secondly, I'm sure there's a reason why we don't do this. I don't know what it is, but I'm sure it's a really good one. It's probably got something to do with it being incredibly difficult to organize, whereas you sending off a coupon is really simple for everyone. Maybe.

Thirdly congratulations on completing your collection. Who can say why the letters have changed? Er...



More music

Please can you answer my question as it is very important. *(So are they all, old fruit, so are they all. – Ed)* I am desperately looking for a music program where you enter notes like crochets, quavers, etc – not *Equinox* or *Super Sonic* style. After looking through some ***AA***s I found a picture of a person using this style of music program. *(A person called Ollie Alderton, nostalgia fans. – Ed)* It was in AA85 in the music feature. There was also a picture of it in AA87. Please could you tell me what this program is called, where I can get it and how much it costs. Are there any other music programs in this style? Thank you. I hope you can help.

Jonathan Brunhead
Somewhere out near Stockport

The program of which you speak is RAM Music Machine from Datel (0782 744707). It's a music program-cum-MIDI interface, and it isn't, frankly, up to much. Well, it's okay, but in AA50 we reviewed it and said (among some nice things) 'using Music Machine to write compositions is like using a match stick to play snooker'. Doesn't sound like fun to me. We don't know of any programs that meet your needs, although there may be some in the public domain. Try a few libraries and see what they can do.

Some grovelling

First of all, may I grovel before you and say that ***AA*** is the best magazine in the world *(Oh, all right then. – Ed)*. Secondly, could you possibly answer a few questions for me?

1. How can I get past the Flash Boredom set alive in *Seymour Goes To Hollywood*?
2. How many of the ***AA*** team like the brilliant Quantum Leap.
3. Are there any soccer games lined up for the covertape, if so what are they?
4. Is Rod ever coming back.
5. When are *Lemmings* and the *Addams Family* coming out on budget?
6. How do I get the key in Isn't This High in *Seymour Goes To Hollywood*?
7. Where can I get a copy of *Spiderman: Dr Doom's Revenge*?
8. Why are Commodore graphics crap, and Amstrad's graphics aren't?
9. Thanks very much.

John Fee
Dundalk

1. Don't know, don't care and it doesn't make any difference. I hate Seymour games.
2. Simon and I do. Nick doesn't watch it at all, but his sister likes it.
3. We'll try to find one. Italy 90 might be nice.
4. I asked him and he said something about coming back when Torvil and Dean perform in Hades. Make of that what you will.
5. Don't know about Lemmings, if I find out I'll let you know. Addams Family is in this very ish.
6. Haven't I already explained about Seymour games?
7. Try US Gold on 021 625 3388. Failing that, how about the small ads?
*8. Ooh, now I know this one. It's got something to do with sunspots, hasn't it? But remember, Kids, **AA** doesn't think it's big or hard or clever to slag off other computers.*
9. No, really, thank you. ●

And another thing

Thanks to **Eric Walker from Guildford** who's quite clearly mad and whose letter was ever so slightly dribbly and odd in a 'we can't really print all this stuff' kind of way but who, nevertheless, made me laugh and sent Simon a penny. Thanks Eric.

Thanks too to **Lucy Bethell from Stockport**. We'd probably never get away with using your idea (someone would be bound to object), but thanks anyway.

Oh, and thanks for the nice things you said.

Richard Benson from Paulton le Fylde – we'll definitely try to track down *Lazer Squad* for the covertape.

Thanks for the photo – why are you wearing that glove, and what's in your other hand?

Ray Hawkins from Bognor – No, really, it cost £21.95 and it was our first choice – something else caused the delay and none of it was our duplicator's fault (it wasn't really our fault, either – for once). But thanks for your comments and your loyalty.

Mr/Mrs/Miss/Ms 'I am sorry' (you didn't put your name, you clot) from Chorley – thanks for the letter, we'll miss you. Make sure you get at least a 386, though (a fast one at that), or it'll start all over again.

Cheat Mode

Pssst. Wanna cheat at a few games? We've got 'em all here, mate. All as supplied to the toffs by that Phil Howard. I've got some lovely nylons, too. Petrol coupons?

Hideous

A hideous cheat for a hideously difficult game. Turn the built in cheatmode on or select the level you would like to play.

```
FAOI  1·'·Hideous·cheat
AAJH  2·'
GALK  3·'·Cheat·mode·on/off
AALH  4·'
FAEJ  5·'·Start·level·1-4
AANH  6·'
GAHN  10·DATA·21,09,bf,22,1a,80,c3,00
HANB  20·DATA·80,3e,05,32,9c,03,3e,ff
FACL  30·DATA·32,fb,02,c3,b0,02
FAFE  40·FOR·x=&BF00·TO·&BF15
FAME  50·READ·A$:a=VAL("&"+a$)
GAIE  60·y=y+a:POKE·x,a:NEXT
EAFP  70·IF·y<>2013·THEN·160
IAEB  80·INPUT"Cheat·mode·Y/N?·",i$
DABO  90·i$=UPPER$(i$)
HAAA  100·IF·i$="Y"·THEN·POKE·&BF0A,0
IAEG  110·INPUT"Start·level·(1-4)",i
EAMO  120·IF·i=1·THEN·i=257
EALB  130·POKE·&BF0F,i-2
IAGA  140·MEMORY·&5000:LOAD"hideous
DAAA  150·CALL·&BF00
GANG  160·PRINT"Data·error!"
```

Robin Hood

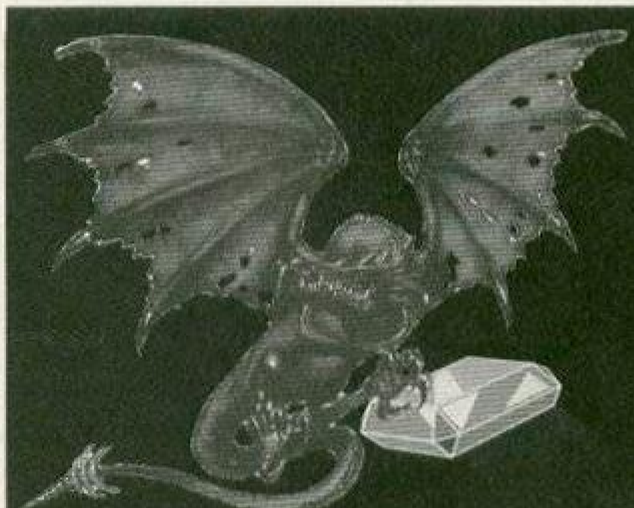
Graham Smith of Street is still producing pokes for us, this ones for *Robin Hood – Legend Quest.*



It's that hapless junior magician-type person again. But now we've got some clues.

```
JAKC  1·'·Robin·Hood·-·Legend·Quest
FAJO  2·'·By·Graham·Smith
AAKH  3·'
FADJ  10·DATA·3e,55,32,4b,9c,21
GACF  20·DATA·cb,eb,22,b6,9c,c3
FAAP  30·DATA·40,9c,af,32,f4,a0
DABL  40·DATA·c3,b7,75
HAPM  50·PRINT"Infinite·lives"
IAMJ  60·PRINT"ROBIN·HOOD·LEGEND·QUEST"
FAEC  70·MEMORY·&8888:LOAD""
HAID  80·FOR·j=&9D90·TO·&9DA4:READ·a$
GAPL  90·POKE·j,VAL("&"+a$):NEXT·j
CAJP  100·CALL·&9D90
```

Dragontorc



Some time ago the game *Dragontorc* appeared on the *AA* covertape. I would like to bet that very few people actually managed to figure out just what was going on let alone finished the game. Anyway, out of the blue comes the solution to the game from Adrian Hodgson of Matlock in Derby. I just know you've been hard at it for the last year Adrian... Now that all is revealed you will realise why you never got further than you did!

- Find the bow and arrow and give it to one of the elves, you will receive a scythe.
- Use the Scythe to cut down the herb this will give you the energise spell.
- Find the missile spell in the pool this will be useful in the lost vaults.
- Under a slab on the first level you should find a jewel, trade this with an elf to get a clue for later on in the game.
- Use the servant and take the message to the other stone slab on the first level and this should open a passage to the next level.
- In the lost vaults (level 2) you need to collect the letters X,I and T, then place them on top of the letter E to form the word exit to move to the next level.
- The letter I is difficult to obtain, go to the room with the stool and fireball in.
- Move the servant over the stool and it will change into a chest. Open the other chests in the vault and you will have 2 keys, open the chest by the fireball and the fireball should change into a half-moon, inside the chest is the letter I.
- On leaving the vaults of Locris you should arrive at Weirdhenge.
- Use the leyrod spell to locate the leycubes in the henge, these cubes transport you to different locations within the game.
- Follow the route of the yellow cube to the blasted forest, then use the leyrod in this henge, and again take the route via the yellow cube to Webwood.
- Find the stick.
- If a spider should bite you it is possible to stop the energy drain by using the heal spell (from Locris).
- Move the stone with the stick and take the axe from beneath.
- Use Merlyn's seal to move the flagstone and go down the hole to Merlyn's cave.
- Unlock the chest with the seal and read the message that is inside.
- Leave the message scroll and the half-moon.
- Use the servant on the table in the adjacent room to take the milk and warrior gem.
- Go down the exit and use the axe on the stump.
- Find a log and put the milk near it to attract the hedgehog.
- Take the hedgehog, go back to the stump and use it to find the key.
- Take the key and Merlyn's seal back down into the cave and unlock the door.





Hurrah, it's a girl with pigtails – we thought they'd gone out of fashion a long time ago.

Mystical

Hot off the presses *(And boy, those presses ARE hot. – Ed)* and just in time, comes a set of playing tips for the AA93 covertape game *Mystical* from Mark Riley of Kirby Muxloe, actually I've had them since the original game appeared, but now's as good a time as any to give them an outing.

Scrolls and what they do

01 – You fire red missiles.
02 – You fire bolts that turn the baddies into trees.
03 – You fire a whole load of bolts all over and up the screen.
04 – You fire bolts that turn the baddies into rubble.
05 – The baddies are locked in cages.
06 – the baddies all fall to the ground.
07 – You fire a sword that kills the baddies (eventually) and remains on the screen while they are about (very useful).
08 – You fire bolts that turn baddies into frogs.
09 – You fire a set of red balls that bounce across the screen killing everything they touch (slow but good).
10 – You fire bolts that turn baddies into snowmen.
11 – All baddies die.
12 – All baddies freeze.

Phials and what they do

01 – 2 extra magicians appear on either side.
02 – 1 extra magician appears usually on the left.
03 – All baddies run off the side.
04 – A genie appears just above you and fires continuously in 3 directions.
05 – Gives protection from baddies (very useful).
06 – You fire diagonally.
07 – As 06 but straight up
08 – You fire a bolt that electrocutes the baddies.
09 – You fire batwings.
10 – A cloud drifts up the screen killing the baddies.
11 – You fire blue balls up the screen.
12 – Shield from baddies bullets only.

Tips

1 Save some magic for the third level in each world. You need to beat the god at the end of that level.
2 Burgers increase your energy.
3 Avoid as many baddies as possible.
4 Don't fire unless you have to.
5 When you get to the first level God, move right to the top of the screen and then circle round in front firing constantly, then move back to the opposite corner at the top. Don't move in very close behind him or your energy decreases quickly.
6 One bolt kills a baddie, several balls (red or blue (or green if you haven't a colour monitor)) are needed for the same effect.
And if you can't finish it now then, tch, there's no



Hulk Hogan kindly helps his opponent with his limbering up exercises before the fight.



And is treated to an oriental 'jumping up and down in the upper chest' massage.

- Open the chest with Merlyn's seal and take Hagor's seal.
- Take the half-moon and go to Hagor's sanctuary.
- Find and take the energy herb, then find the skelebone and search to get the divining rod.
- Use the divining rod to search the leaves and pools to get the Bane jewel and the crystal of anti-thought.
- Use the seal to open the tombstone and go down.
- Read the message, leave everything but Hagor's seal and go through the door.
- Touch the seal on the 3 spiders before they kill you and take the 3 spells.
- Use the Return spell to get into Hagor's tomb room.
- Search the tomb for the door key to get out.
- Leave with the half-moon and go to Witchwood to find sanctuary for the key to Locris vaults.
- In Witchwood find the message that says 'Batswing, witchleaf, frogleg will reveal' and collect the bat, the herb and the frog in the pool.
- Put these in the cauldron and get the wand that floats out.
- Go next door and use the wand to move the flagstone. Take the elf gem and the spell.
- Give the wandering elf the gem in return for the other half of the moon key, then construct the whole key and take the full moon.
- De-activate the magic sword with the wand and take it, then cut down the sapling and create the magic broom to sweep away the leaves.
- You should then find a second large stone and the message 'What full moon reveals take it with steel' This means use the moon on the stone.
- Before proceeding to Sanctuary move the other flagstone in the woods and collect the light spell.
- You can kill the goblins with the missile spell and protect yourself against the Demons missiles with the mantle.
- If you walk into the Cursed scroll you are transported to a doorless room. Use the leyrod to reveal the exit.
- Uncurse the scroll with the sword and get the message 'The vault of Locris is opened with Sunkey' this is what you are looking for.
- One of the goblins has the Sunkey, and another has the green chest key which opens three chests.
- In one of these rooms is a cursed wand, use the sword to remove the curse and get the message.
- Use the sword on the magic spiders and get some more spells.
- Unlock a green chest with the green key to get a message which can be read in conjunction with the message you get on the locate spell which you receive when the winged demon is destroyed.
- In the dark room use the light spell, and search it with the wand there is a key under the stone carving on the back wall.
- Search the tomb with the servant for the wall spell and kill the wraith with the bane spell.
- Use the door key to open the locked door by the goblins, inside is a green chest which can be opened by the green key. Leave the old key and collect the one you have just found in the chest.
- Go through the dark room and open the locked door at the other side, go through the door.
- Look for 2 doors side by side, one has an exit cube on it, then use the locate inside to find a green chest which can be opened by the green key.

Some POKEs

Where they got them from no one will ever know after the gigantic listing of a couple of months ago.

But, undaunted, Ken Wood of Blyth and Lee Rouane of Kelstedge have managed to come up with a whole new host of multiface pokes to add to your list.

NAME	ADDRESS	POKE	EFFECT
Karnov (t)	40DB	00	Inf lives
	5025	00	Inf time
	40D4	00}	Keeps firepower
	00DF	02}	after death
	61BA	00	Inf Bombs
	799A	00	Inf Flames
WWF (t)	09A9	FF	More energy
	2A67	00	Inf lives
Zap'T'Balls PD (d)	0271	FF	255 lives
	080B	00	Inf time
Predator (t)	A7A3	00	Inf lives
	86B1	00	Inf grenades
	35E5	00	Inf bullets
	E6B5	00	Inf time
Captain America (t)	97AC	A7	Inf shields
Game Over pt 1 (d)	046E	00	Inf grenades
	1F37	C9	Inf energy
	1F7C	00	Inf lives
Game over pt 2	046E	00	Inf lasers
	1D5F	C9	Inf Energy
	1DA4	00	Inf lives
Fire & Forget (t)	43D5	00}	Inf fuel
	445A	00}	
The Real Ghostbusters	65BC	00	Inf lives
	50CB	00	Inf time
Syntax (AA) (t)	2607	00	Inf lives
Cauldron (t)	9C83	00	Inf lives
Camelot Warriors (t)	089E	00	Inf lives
Zolyx (t)	4390	00	Inf lives
Yogis great escape	07CC	A7	Inf lives



Purple minarets and bouncing metal balls. Fever can induce hallucinations like this.



And here we see a man with green things on his head. We'd better see a doctor.



Who can say why this witchy picture's here? We just thought it would look nice, I guess.

- Take the cursed key which has a message (on the whereabouts of the crowns and the order to destroy them) from inside the chest.
- Use the full moon and the sunkey to reveal the exit cube and leave with the sunkey and the Cursed key.
- Go back to the Vaults of Locris.
- Open the locked door with the sunkey.
- Search the tomb with the servant spell and find the undo spell.
- On the next screen avoid the fireballs and use bane to kill the wraith.
- The doorway to the crown is cursed so use the undo spell otherwise you will be transported on entry.
- when you have removed the curse a moon symbol appears. Use undo to release the crown and take it.
- Use return spell place the crown on the anvil and destroy it with the crystal of anti-thought. Take the gold remnants for trading with the elves.
- Proceed to Dreamdowns, if the dwarves are bothering you then lead the elves to them or use the warrior spell.
- Look for the squirrel and use him to search the leaves to reveal a stone and a torch.
- Light the torch on the camp fire and take a bow to the elf. The elf will give you a nut in return. Give this to the squirrel and he will crack it open to reveal a key.
- Enter the ruins with the elf and open the chest with the key and take the snake symbol.
- Use the snake to move the flagstone and take the demon spell that lies underneath.
- Leave the ruins and use the snake symbol to move the flagstone in the woods and reveal an entrance. Go down with the snake symbol and the lit torch.
- Go through the first door and turn off the snake generator with the torch by placing the torch on the wall snake symbol.
- Kill any remaining snakes with the snake symbol.
- Open any locked doors and chests with snake symbol and kill any snakes with the torch.
- Take the crown symbol from the chest (If there is no crown only another snakesymbol put two snakes together and make a crown).
- Beware of the axe and fireball room, use slow or unseen spells.
- Search the tomb with the crown symbol to reveal a crown and a message.
- Use the snake symbol on the other snake symbol to reveal the exit or use the return spell.
- Place the crown on the anvil to destroy it.
- travel to the Trollstones use the warrior spell on the deadly yellow imps and kill them before trying to solve any of the puzzles.
- Make sure you have the lit torch and the demon spell.
- Search the leaves to get the bane gem.
- Catching the bird will reveal a message
- Search the stump for the coin and put it into the water, then jump into the pool to go to Hellsmouth.
- Hellsmouth is populated by bats that can be killed by using the missile spell and you can kill the snakes with the torch.
- Find the axe and smash the eggs then take the chest key.
- Look for the chest, open it with the key and get the crown symbol.
- Place the crown symbol on the cursed key while avoiding the balls of red fire, Unseen or slow will help.
- Take the key and use it to open the locked door, when the demon appears use the demon spell to destroy it.
- Take the crown, kill the eyes with the bane and place the crown symbol on the stone to reveal the exit.

So farewell then

In April 1990, in AA55, a chap called Phil (Uncle Phil) Howard made his first appearance as the host of ***AA***'s Cheat Mode pages. Now, after 41 issues, he's hanging up his cheating trousers and moving on to pastures new.

On behalf of everyone who's ever finished a game as a result of Phil's tireless cheating efforts we'd like to say a cheery farewell – we'll miss ya.

But who's this?

Regular Cheat Moders will have noticed the name of Lee Rouane cropping up with alarming regularity. So regular, in fact, were his contributions that we thought we ought to get him on our side – so from next month he'll be our new Cheat Mode maestro. Hurrah.

So write to him

Lee's going to be needing your hints, tips, cheats, POKEs and any other helpful stuff you can muster. So write to him at:

Amstrad Action
Cheatmode
30 Monmouth Street
Bath
BA1 2BW

You might even win yourself 25 quid.

THE MULTIFACE WAY

The (t)s and (d)s before the address indicate whether the poke was written for a tape or disk game (they might work on both, its worth a try). Just in case you don't already how to put in these BLACK BOX POKES, here are the steps to success.

a) Load the game as normal.
b) Press the RED button on the MULTIFACE.
c) Press T for tool.
d) Press * to make sure you select the code.
e) Press H for HEXADECIMAL input.
f) Press SPACE for input.
g) Type in the ADDRESS (4 characters ie. 3A7C).
h) Type in the POKE (2 characters ie A7).
i) Press RETURN.
j) If there is more than one poke goto (f).
k) Press ESC back to the menu.
l) Press R return to the game.

Zap'T'Balls

Catherine Bishop of Southampton has managed to crack the first two levels of the commercial version of the Austrian Pang clone.

Cuddly Testworld – 2:GEH 4:MNP 6:LPT 8:RTF 10:TFL 12:FLG 14:LGA

Iceworld – Access code:HLFSOKZUEARJ – 2:UNB 4:ELI 6:EVA 8:BLE 10:BUT 12:THI 14:SLO 16:OKS 18:LIK 20:EAC 22:LAU 24:SEY





- Place the crown on the anvil to destroy it.
- Proceed to Wyrmwood and search all the woods pools, leaves etc. with the servant spell, and get the spells and elf gems. Find the elves and give them the gems, you will receive a touch key and a missile spell.
- Use the key to open the chest and get the detect spell.
- Light the torch on the goblins fire and kill the snakes
- Beware of the flying cube that transports you, decoy it or it will be waiting for you.
- Use the goblins key to open the chest, get a bow and door key. Give the bow to the elf.
- Open the locked door, kill at least one of the goblins inside the citadel to persuade the elves to follow you and kill the goblins.
- Open the next door end enter beware of the magic balls.
- Open the next door and enter beware of the bat.
- Open the door on the left use the detect spell.
- Take the key and open the chests, take the pentagram and the undo spell find the pentagram on the floor of one room and place the symbol on top of it to reveal the decoy cube this will take you outside the citadel.
- Beware of the demon who will take away the ability to open doors.
- The way to Morag is through a room with a flashing imp, don't touch it.
- Lead the elves but try to destroy the skelebones and demons yourself or they might kill the elves.
- Find the pool and replenish your energy.
- Find the green key put the lit torch on the floor to attract the snakes then kill them, then use undo on the key and open the chest.
- Take the white key but leave the symbol there for later and unlock the door then lead the goblins away for the elves to deal with.
- Beware of the invisible spider use the missile spell and you should be in Morag's room.
- Use slow or unseen. Place the hand on top of the crown and the crown will drop down, take it and the wand and go left.
- Use bane to kill the wraiths. Put the wand on top of the fireball generator and it will turn into a door key.
- Take the key, open the snake room and kill the snakes. Find the cheat using the wand and open it with the green key.
- Use the wand to turn off the snakes and magic then take the mindkey spell from the chest.
- Take the wand, the crown and the pentagram to the room with the exit cube and the other pentagram symbol, leave the pentagram.
- Open the door with the mindkey and use the yellow key from the invisible goblin room to open the chest, beware of axes from inside Use the wand to turn them off.
- Take the pentagram and place it on the cube (missiles fly out) place another on and the cube re-appears. Take the cube and go down.
- You will arrive at Cairndoom open the doors with the mindkey, and kill the goblin dwarf and demon with the missile and warrior spells.
- Look for the room with the giant stone, the use the mindkey on the stone and Merlyn is revealed.
- Give Merlyn the crown to complete the game.



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Next Month

In the loveliest CPC magazine...

On the trail of Street Fighter II

More people ask us about *Street Fighter II* than any other piece of software. Next month we'll have part two of our *SF2* series with news and interviews. We might even have a preview by then.

Serious software bonanza

Among other things, we'll have a review of a tape-to-disc utility and another disc archiver. All this and Techie Forum too. What more could you ask?

Budget game round-up

Huge numbers of games have been re-released by the big software houses on their budget labels. We'll have a bit of a scout around and see if we can't rustle up a few for a kind of big round-up type game feature thing. That'll be good, won't it?

Interviewed
Those nice chaps at Campursoft. Now we've got pictures (oh no).

Explored
Part the third of Venture Forth – Objects and Puzzles. Define them and place them.

Public and convenient
Public domain? You want it, we've got it.

And loads more...
Cheats, tutorials (including more on *MasterCalc*), adventures, jokes, fish and chip suppers, visits to the off licence over the road – all the September issue of ***AA***.

September issue on sale Thursday 26th August